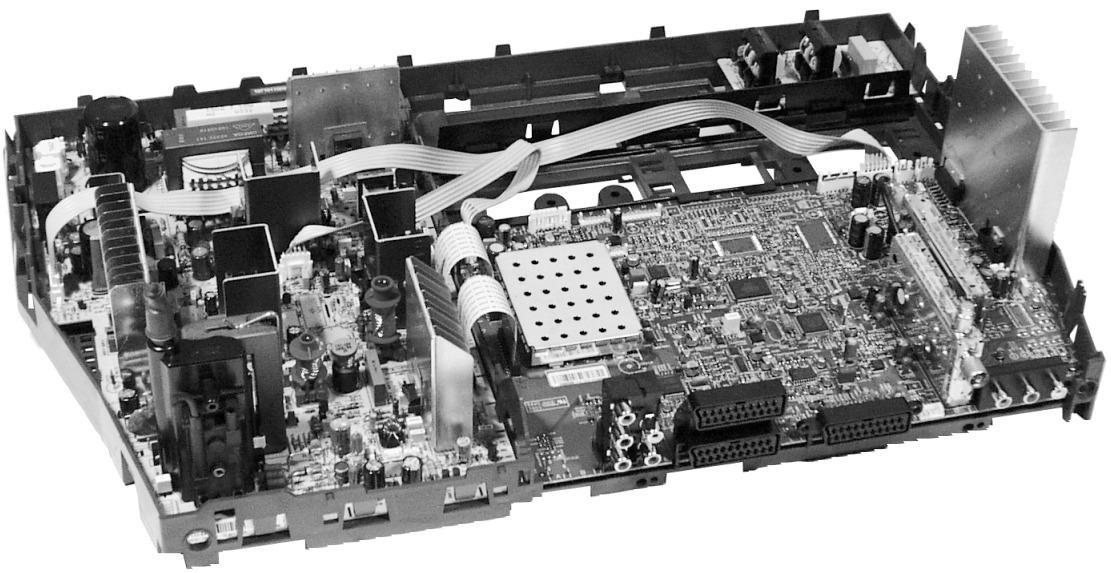
THOMSON

TV

SERVICE MANUAL
DOCUMENTATION TECHNIQUE
TECHNISCHE DOKUMENTATION
DOCUMENTAZIONE TECNICA
DOCUMENTACION TECNICA

ITC222



WARNING : *Before servicing this chassis please read the safety recommendations.*
ATTENTION : *Avant toute intervention sur ce châssis, lire les recommandations de sécurité.*
ACHTUNG : *Vor jedem Eingriff auf diesem Chassis, die Sicherheitsvorschriften lesen.*
ATTENZIONE : *Prima di intervenire sullo chassis, leggere le norme di sicurezza.*
IMPORTANTE : *Antes de cualquier intervención, leer las recomendaciones de seguridad.*

Code : 357 388 00 - 1203 / 6M - ITC222 - Print.

No copying, translation, modification on other use authorized. All rights reserved worldwide. • Tous droits de reproduction, de traduction, d'adaptation et d'exécution réservés pour tous les pays. • Sämtliche Urheberrechte an diesen Texten und Zeichnungen stehen uns zu. Nachdrucke, Vervielfältigungen - auch auszugsweise - nur mit unserer vorherigen Zustimmung zulässig. Alle Rechte vorbehalten. • I diritti di riproduzione, di traduzione, e esecuzione sono riservati per tutti i paesi. • Derechos de reproduccion, de traduccion, de adaptacion y de ejecucion reservados para todos los paises.

Do not disconnect modules when they are energized!
Repairs on power supply section are to be carried out only with isolating transformer.

Ne pas retirer les modules lorsqu' ils sont sous tension. N'effectuer les travaux de maintenance sur la partie reliée au secteur (Switch Mode) qu'au travers d'un transformateur d'isolement.

Module nicht bei eingeschaltetem Gerät entfernen!
Servicearbeiten am Netzteil nur unter Verwendung eines Regeltrenntrafos durchführen.

Non scollegare le piastre quando sono alimentate!
Per le riparazioni sulla sezione alimentatore, utilizzare un trasformatore isolatore.

No desconectar los módulos cuando están activados. Las reparaciones en la sección de alimentación de energía deben ser ejecutadas solamente con un transformador de separación.

⚠ Indicates critical safety components, and identical components should be used for replacement. Only then can the operational safety be garanteed.

Le remplacement des éléments de sécurité (repérés avec le symbole ⚠) par des composants non homologués selon la Norme CEI 65 entraine la non-conformité de l'appareil. Dans ce cas, la responsabilité du fabricant n'est plus engagée.

Wenn Sicherheitsteile (mit dem Symbol ⚠ gekennzeichnet) nicht durch Original - Ersatzteile ersetzt werden, erlischt die Haftung des Herstellers.

La sostituzione dei componenti di sicurezza (evidenziati con il segno ⚠) con componenti non omologati secondo la norma CEI 65 comporta la non conformitá dell'apparecchio. In tal caso è "esclusa la responsabilità " del costruttore.

La sustitución de elementos de seguridad (marcados con el simbolo ⚠) por componentes no homologados segun la norma CEI 65, provoca la no conformidad del aparato. En ese caso, el fabricante cesa de ser responsable.

MEASUREMENT CONDITIONS - CONDITIONS DE MESURES - MESSBEDINGUNGEN CONDIZIONI DI MISURA - CONDICIONES DE MEDIDAS

RECEIVER :
On UHF,input level : 1 mV, bar test pattern :
- PAL, I standard, 100% white.

Via the scart socket, input level : 1 Vpp, bar test pattern :

Colour, contrast and brightness at mid-position, sound at minimum.
Programme selected : PR 01.

DC voltages measured between the point and earth using a digital voltmeter.

RECEPTEUR :
En UHF, niveau d'entrée 1 mV mire de barres
- SECAM, Norm L, Blanc 100%.

Par la prise Péritélévision, niveau d'entrée 1 Vcc, mire de barres .

Couleur, contraste, lumière à mi-course, son minimum.
Programme affecté PR 01.

Tensions continues relevées par rapport à la masse avec un voltmètre numérique.

EMPFÄNGER :
Bei UHF Eingangspegel 1 mV, Farbbalken :
- PAL, Norm G, Weiss 100%.

Über die Scartbuchse : Eingangspegel 1 Vss, Farbbalken :

Farbe, Kontrast, Helligkeit in der Mitte des Bereichs, Ton auf Minimum.
Zugeordnetes Programm PR 01.

Gleichspannungen mit einem digitalen Voltmeter zur Masse gemessen.

RICEVITORE :
In UHF, livello d'entrata 1 mV, monoscopio barre :
- PAL, norma G. bianco 100%.

Via SCART, livello d'entrata 1 Vpp, monoscopio barre :

Colore, Contrasto, Luminositá media, Suono minimo.
Programma selezionato PR 01.

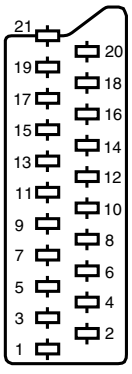
Tensioni continue rilevate rispetto alla massa con un voltmetro digitale.

RECEPTOR :
En UHF, nivel de entrada 1 mV, mira de barras :
- PAL, norma G, blanco 100%.

Por la toma Peritelevision, nivel de entrada 1 Vpp mira de barra.

Color, Contraste, luz a mitad de carrera, Sonido minimo.
Programa afectado PR 01.

Tensiones continuas marcadas en relacion a la masa con un voltimetro digital.



NOTE : (MAIN) *... etc. identifies each* pcb module.

NOTE : (MAIN) *... etc. repères des platines constituant l'appareil.*

HINWEIS : (MAIN) *... usw. Kennzeichnung der Platinen, aus denen das Gerät zusammengesetzt ist.*

NOTA : (MAIN) *... ecc. sigla delle piastre dell' apparecchio.*

NOTA : (MAIN) *... etc. marcas de las placas que constituyen el aparato.*

		ENGLISH	FRANÇAIS	DEUTSCH	ITALIANO	ESPAÑOL
1	⊖→	AUDIO "R"	AUDIO "D"	AUDIO "R"	AUDIO "D"	AUDIO "D"
2	→⊕	AUDIO "R"	AUDIO "D"	AUDIO "R"	AUDIO "D"	AUDIO "D"
3	⊖→	AUDIO "L"	AUDIO "G"	AUDIO "L"	AUDIO "S"	AUDIO "I"
4	⊥	AUDIO	AUDIO	AUDIO	AUDIO	AUDIO
5	⊥	"BLUE"	"BLEU"	"BLAU"	"BLU"	"AZUL"
6	→⊕	AUDIO "L" MONO	AUDIO "G" MONO	AUDIO "L" MONO	AUDIO "S" MONO	AUDIO "I" MONO
7	→⊕	"BLUE"	"BLEU"	"BLAU"	BLU	AZUL
8	→⊕	SLOW SWITCH	COMMUT. LENTE	AV UMSCHALTUNG	"COMMUTAZIONE LENTA"	"CONMUTACION LENTA"
9	⊥	"GREEN"	"VERT"	"GRÜN"	"VERDE"	"VERDE"
10	⊕→ ⊖→	AV LINK	AV LINK	AV LINK	AV LINK	AV LINK
11	→⊕	"GREEN"	"VERT"	"GRÜN"	"VERDE"	"VERDE"
12	NC					
13	⊥	"RED"	"ROUGE"	"ROT"	"ROSSO"	"ROJA"
14	NC					
15	→⊕	"RED"	"ROUGE"	"ROT"	"ROSSO"	"ROJA"
16	→⊕	FAST SWITCH	COMMUT. RAPIDE	AUSTASTUNG	"COMMUTAZIONE RAPIDA"	"CONMUTACION RAPIDA"
17	⊥	VIDEO	VIDEO	VIDEO	VIDEO	VIDEO
18	⊥	FAST SWITCH	COMMUT. RAPIDE	AUSTASTUNG	"COMMUTAZIONE RAPIDA"	"CONMUTACION RAPIDA"
19	⊖→	VIDEO	VIDEO	VIDEO	VIDEO	VIDEO
20	→⊕	VIDEO OR "SYNC"	VIDEO SYNCHRO	VIDEO ODER SYNCHRO	VIDEO O SINCRO	VIDEO O SINCRO
21	⊖→	PLUG SCREEN BOX	BLINDAGE PRISE	ABSCHIRMUNG DES STECKERS	INVOLUCRO METAL-LICO DELLA PRESA	BLINDAJE DEL ENCHUFE

→⊕ : INPUT - ENTRÉE - EINGANG - ENTRATA - ENTRADA • ⊖→ : OUTPUT - SORTIE - AUSGANG - USCITA - SALIDA • ⊥ : EARTH - MASSE - MASSE - MASSA - MASA

INFORMATION - INFORMATIONS - INFORMATIONEN
INFORMAZIONE - INFORMACIONES

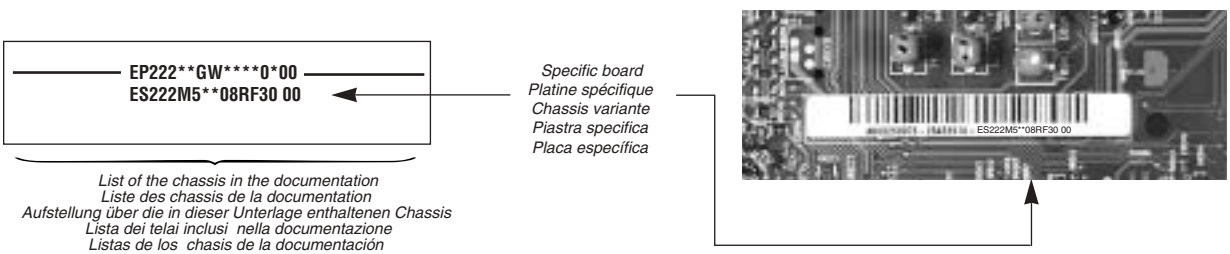
(EN) The **ITC222** chassis is equipped with two main boards :
- Power/Scan Board :PSB - Designation: **EP222 **GW**... and Small Signal Board: SSB - Designation: **ES222M5**...
Chassis group table
1 - The electronic chassis configuration (modules) and schematic diagram page numbers.
2 - The modules configuration.

(FR) Les chassis **ITC222** sont constitués de deux platines principales:
- Platine Balayage/Alimentation: PSB-Désignation: **EP222 **GW**... et Platine petits signaux: SSB-Désignation: **ES222M5**..
Le tableau ci-dessous regroupe :
1 - L'environnement électronique de chaque chassis (modules) et le numéro de page où il est décrit.
2 - La désignation des modules.

(DE) Das Chassis **ITC222** besteht im wesentlichen aus zwei Hauptleiterplatten:
- Netzteil/Ablenk-Platine: PSB - Bezeichnung: **EP222 **GW** ... ; Signal-Platine: SSB - Beszeichnung: **ES222M5**...
Die folgende Tabelle der Chassisgruppen stellt dar:
1 - Die Baugruppen der einzelnen Chassisvarianten und die Seitenzahlen des dazugehörigen Schaltbildes.
2 - Die Modulbestückung der Chassisvarianten.

(IT) Il telaio **ITC222** è formato da due piastre principali :
- Piastra Deflessione/Alimentazione : PSB - Descrizione: **EP222 **GW** ... ; Piastra Piccoli Segnali : SSB - Descrizione: **ES222M5** ...
La tabella in basso indica:
1 - La configurazione elettronica del telaio (moduli) ei numeri di pagina del relativo schema.
2 - La configurazione dei moduli.

(ES) El chasis **ITC222** está compuesto por dos placas principales :
- Placa Alimentación / Barridos (PSB), denominada : **EP222 **GW** ... ; y la placa de pequeñas señales (SSB), denominada : **ES222M5** ...
- En la tabla siguiente se pueden ver:
1 – La configuración electrónica de cada chasis (módulos) y el número de página donde está el esquema.
2 – La denominación de los módulos.



DESCRIPTION	BLK/ WIR. DIAGR.	CONNECT- SAFETY	ADJUST. MENTS	POWER / SCAN BOARD			SMALL SIGNAL BOARD							CRT	DYNAMIC FOCUS	FCB KDB
				POWER (PP)	SCAN (DP)	PSB PCB	POWER (SPP)	REMOTE (RP)	HF TUNER	FRONT END (FE)	VIDEO (VP)	AUDIO (AP)	SSB PCB			
EP222**GW****0*00	5 - 8	9	10-24	25-26	27-28	29-34										
ES222 M5**08RF30 00	5 - 8	9	10-24				35-36	37-40	41-42	43-48	49-52	56-62	63-69	53-55	70-72	75-77
EP222**IW****0* 00	5 - 8	9	10-24	25-26	27-28	29-34										
ES222 M5**08RF30 00	5 - 8	9	10-24				35-36	37-40	41-42	43-48	49-52	56-62	63-69	53-55	70-72	75-77

VHF / UHF Tuner Part (for Information only) : p. 73 - 74
Integrated Circuits and Transistors outline : p. 78

INFORMATION - INFORMATIONS - INFORMATIONEN - INFORMAZIONE - INFORMACIONES

EN **OUT OF PRODUCTION MODE :**

To set TV into "**out of production mode**" (letter **P** at the screen):
- Press the **VOL -** button on the TV keyboard until the letter "P" disappears.

FR **SORTIE DE MODE PRODUCTION**

Pour sortir le téléviseur du mode production (lettre P à l'écran):
- Appuyer sur la touche **VOL-** du clavier du téléviseur jusqu'a la disparition de la lettre "**P**" .

DE **VERLASSEN DES PRODUKTIONSMODE:**

"Lautstärke -" am Nahbedienfeld drücken bis der Cursor am linken Anschlag ist und dann noch weitere ca. 10 s halten bis das eingeblendete "**P**" verschwindet.

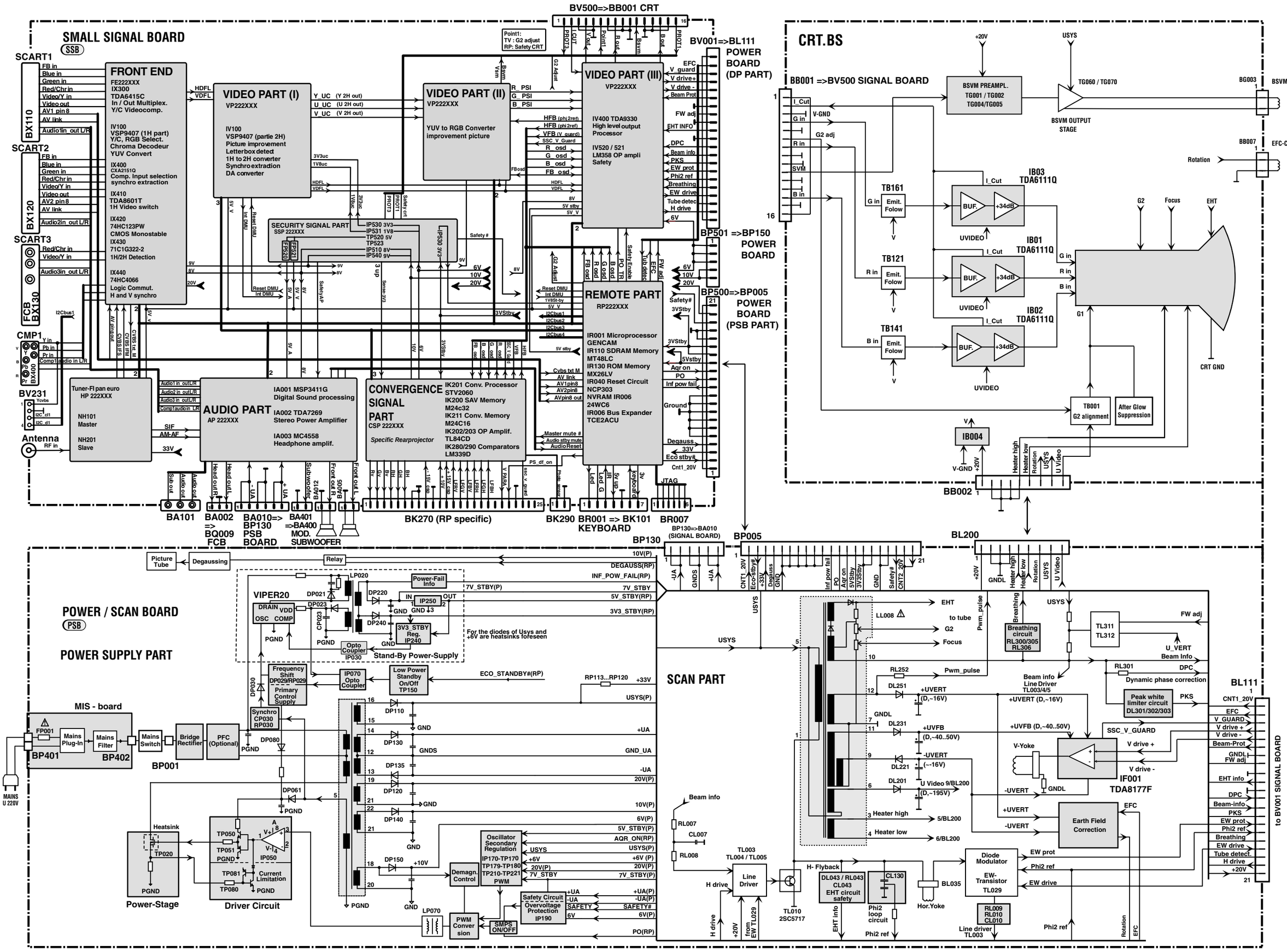
IT **USCITA DA PRODUCTION MODE:**

Per uscire dalla condizione " **Production mode**" (lettera P presente suulo schermo)
- Premere il tasto-volume sulla tastiera comandi del TV fino a che la lettera "**P**" scompare.

ES **SALIDA DEL MODO PRODUCCION.**

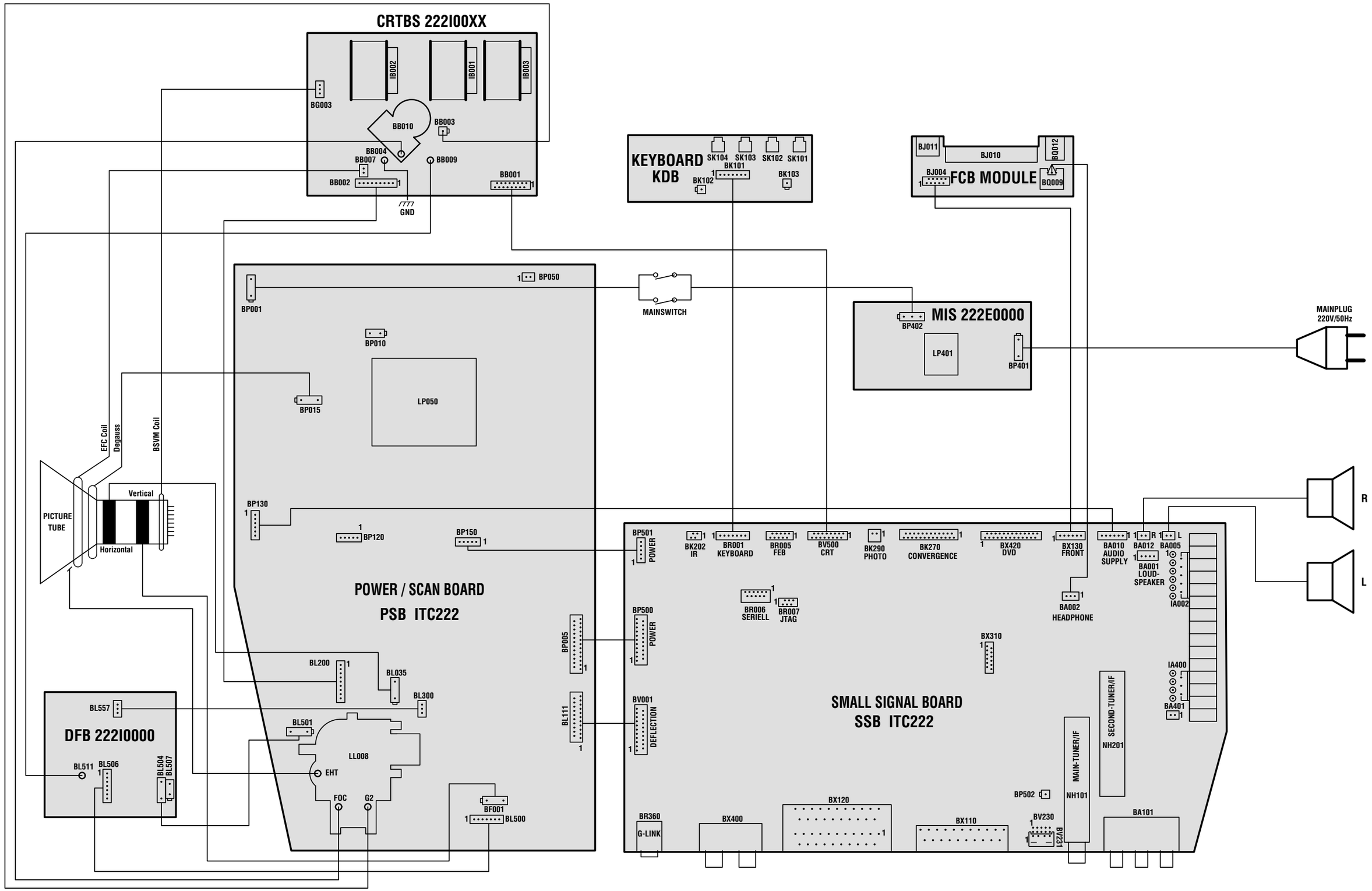
Para salir del '**modo producción**', (aparece una letra **P** en la pantalla):
- Mantener pulsada la tecla "**Volumen -**" del teclado hasta que la letra "**P**" desaparezca.

BLOCK DIAGRAM - SCHEMA SYNOPTIQUE - BLOCKSCHALTBILD - SCHEMA A BLOCCHI - ESQUEMA DE BLOQUES



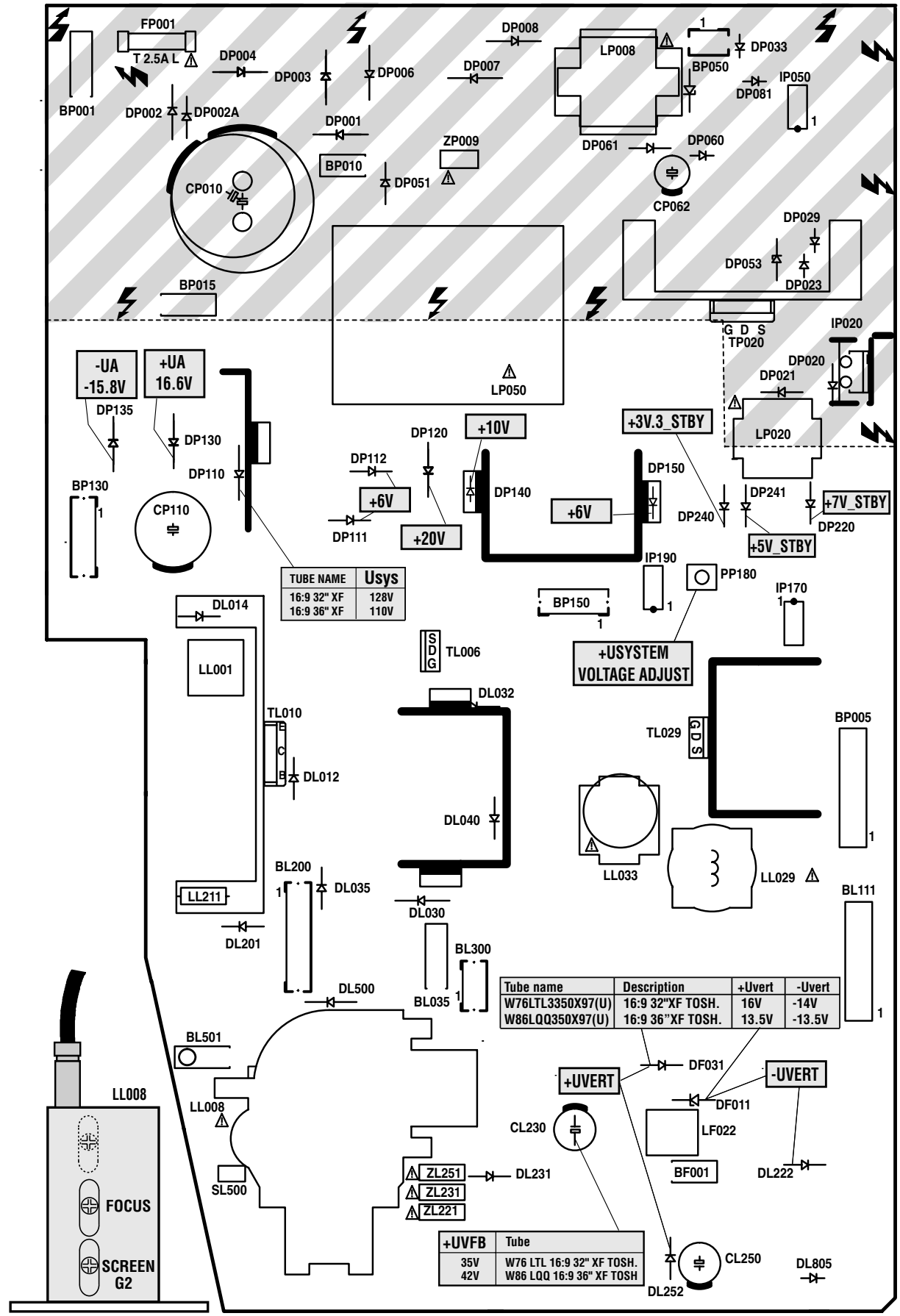
ITC222
First issue 11 / 03

WIRING DIAGRAM - SCHEMA D'INTERCONNEXIONS - VERDRAHTUNGSPLAN - DIAGRAMMA DELLE INTERCONNESSIONI - ESQUEMA DE INTERCONEXIONES



ITC222
First issue 11 / 03

LOCATION OF CONTROLS - EMPLACEMENT DES REGLAGES - SERVICE LAGEPLAN - POSIZIONE REGULATORI DI SERVIZIO - SITUACIÓN DE LOS AJUSTES



Part of board connected to mains supply.
Partie du châssis reliée au secteur.
Primärseite des Netzteils.
Parte dello châssis collegata alla rete.
Parte del chasis conectada a la red

Use isolating mains transformer -
Utiliser un transformateur isolateur du secteur -
Trenntrafo verwenden -
Utilizar un transformador aislador de red -
Utilizzare un transformatore per isolarvi dalla rete

ADJUSTMENTS - REGLAGES - EINSTELLUNGEN - REGOLAZIONE - AJUSTES

U Sys	PP180	Standard TV - Settings : ☼+◑+◐=50% TV to AV1 : Black test pattern	V= DP 110

Tube name	Description	Usys jumper	RP900 Usys divid.	Usys
W76LTL350X97(U)	16/9 32"XF	JP911	26K1	128V
W86LQQ350X97(U)	16/9 36"XFT	JP911	7K15	110V

RASTER SHIFT CORRECTION - CENTRAGE DE BALAYAGE HORIZONTAL - BILDLAGE-EINSTELLUNG
CENTRATURA DI SCANSIONE ORIZZONTALE - RASTER SHIFT CORRECTION - CORRECCIÓN DEL CENTRADO HORIZONTAL

SERVICE MODE

PL551

DYNAMIC FOCUS BOARD

DFB

SCREEN

correct

no correct

- Choose "Geometry" menu in the Service Mode and change H-Amplitude until under scan is reached.
- Choose "Video" menu and active "G2 alignment"
- If the raster is not visible increase G2 voltage (SCREEN potentiometer) slightly until raster becomes visible.
- Center the raster between tube border (equal distance on both sides) with PL551 on Dynamic Focus Board .
- Align G2 and Geometry.

- Aller dans le Mode service/menu "Géométrie" et agir sur H-Amp pour obtenir un sous-balayage.
- Aller ensuite dans "Vidéo" et activer "G2 alignment".
  Les retours lignes doivent être visibles. Sinon augmenter légèrement la tension G2 voltage (potentiomètre SCREEN) jusqu'à ce qu'ils soient visibles.
- Régler PL551(platine DFB) pour centrer le balayage sur le tube (sans faire de repli sur la trace).
- Régler G2 et la Géométrie .

- Wählen Sie im Service-Mode das Menü „GEOMETRY“ und reduzieren Sie die Horizontal-Amplitude bis das Bild horizontal unterschrieben wird (schwarze Ränder links und rechts).
- Wählen Sie im Service-Mode das Menü „VIDEO“ und aktivieren Sie den G2-Abgleich.
- Sollte das Gitter nicht sichtbar sein, erhöhen Sie die G2-Spannung (Einsteller SCREEN) langsam bis das Gitter sichtbar wird.
- Stellen Sie mit dem Poti PL551 auf dem Dynamic Focus Board die Horizontal-Bildlage so ein, dass sich das Gitter in der Mitte des Bildschirm befindet und die schwarzen Bildränder an den Seiten gleich breit sind.
- Gleichen Sie die G2-Spannung und die Bildgeometrie neu ab.

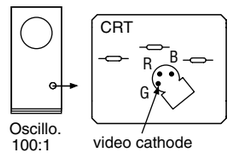
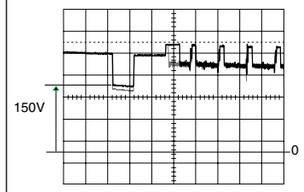
- Selezionare il menu di “Geometria”in service mode e regolare la funzione H-AMPfino ad ottenere una sotto scansione.
- Selezionare il menu “Video” e agire sulla funzione “G2 Alignement”.
- Se il raster non è visibile incrementare la tensione G2 (pot.Screen) lentamente fino a rendere visibile il raster.
- Centrare il raster tra i bordi del tubo (uguale sistanza tra i bordi) con PL551 posizionato sulla piastra Fuoco Dinamico.
- Regolare G2 e Geometria.

- Seleccionar "Geometría" en el menú del Modo Servicio y reducir H-Amplitude hasta ver franjas negras
- Seleccionar el menú "Video" y seleccionar "G2 alignment"
- Si el barrido no es visible, aumentar la tensión de la G2 (potenciómetro SCREEN) lentamente hasta que sea visible.
- Centrar el barrido (igual distancia en ambos laterales) con PL551 en la placa Dynamic Focus.
- Ajustar la G2 y la Geometría.

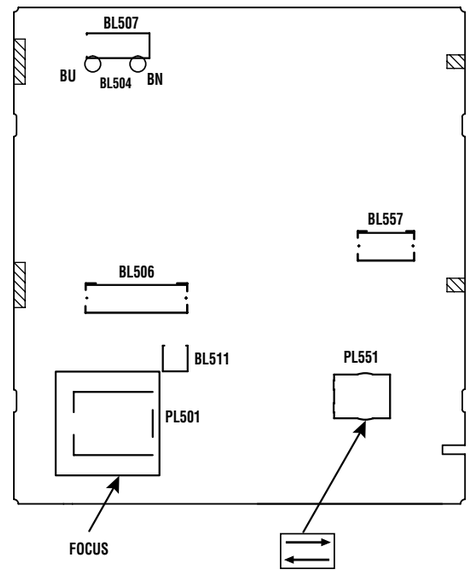
U G2 METHOD 1 SERVICE MODE

U G2 SERVICE MODE	SERVICE MODE G2 potentiometer : SCREEN	-Select and enable the "G2 Alignment" item in VIDEO menu of the Service Mode : the displayed will change to a full black OSD screen. The following adjustment is best carried in semi-darkness: - Adjust the **SCREEN** potentiometer (LL008) so that the retrace lines are just visible. - Now carefully adjust the **SCREEN** potentiometer until the retrace lines just become invisible. - Press any RCU key to leave the G2 alignment. Note: If the G2 value is set too low, the chassis will display error code 36 (tube does not get warm in time). - Sélectionner et valider le réglage "G2 Alignment" dans le menu Vidéo de Service Mode: l'écran devient totalement noir. En obscurité: - Régler le potentiomètre "**SCREEN**" (LL008) pour apercevoir le retour des lignes. - Régler ensuite le potentiomètre "**SCREEN**" pour rendre juste invisible les lignes de retour. - Appuyer sur une des touches de la télécommande utilisateur pour sortir du mode G2 Alignment. Note : En cas de réglage G2 trop faible le chassis passe en code panne 36 (absence de l'information tube chaud. - Wählen Sie im Service-Mode im Menü VIDEO die Funktion "G2 Alignment" an: der Bildschirm wird schwarz. Die folgenden Einstellungen sollten in einem abgedunkelten Raum vorgenommen werden. - Stellen Sie den Einsteller **SCREEN** (am DST LL008) so ein, dass Rücklaufstreifen sichtbar werden. - Stellen Sie den Einsteller SCREEN so ein, dass die Rücklaufstreifen gerade unsichtbar werden. - Drücken Sie irgendeine Taste auf der Fernbedienung um den G2-Abgleich zu verlassen. Achtung: Wenn die Schirmgitter- (G2-) Einstellung zu niedrig ist, kann der Fehlercode 36 (Bildrohr nicht rechtzeitig aufgeheizt) angezeigt werden. Selezionare e abilitare"G2 Alignment" interno al menu VIDEO del Service Mode: Verrà visualizzato uno schermo nero. In condizione con ambiente scuro. Regolare il potenziometro **SCREEN** (LL08) per rendere visibili le ritracce sullo schermo Regolare il potenziometro **SCREEN** per eliminare le ritracce sullo schermo Premere un tasto del tecomando per abbandonare G2 alignment. NOTA: se la regolazione della tensione G2 è tropppo bassa il telaio visualizzerà il codice 36 (il tubo non raggiunge la temperatura nel tempo richiesto) - Seleccionar y validar la línea del "ajuste G2" en el menú VIDEO del Modo Servicio : La pantalla se pondrá oscura y el OSD pasará a color negro. Cuando esté oscura: - Ajustar el potenciómetro **SCREEN** (LL008) hasta hacer visibles las líneas de retrazado. - Ajustar el potenciómetro **SCREEN** justo, hasta hacer invisibles las líneas de retrazado. - Pulsar cualquier tecla del telemando para salir del ajuste de G2. Nota: Si el valor del ajuste de G2 es muy bajo, el chasis puede indicar el código de error 36 (TRC no se calienta en el tiempo establecido)

U G2 METHOD 2 MEASURMENT METHOD

U G2	G2 potentiometer : SCREEN Focus-Block	Standard TV - Settings : ☼+◑+◐ = 50% TV to AV1 : Black test pattern	 CRT-highest cathode CRT-highest cathode Adjust VG2 CRT: V= 150V 
FOCUS	FOCUS	Standard TV - Settings : ☼+◑+◐=50%	TV to AV1 Test pattern Sharp picture
Focus adjustment for extra flat tube (XF)			1 - Turn PL501 fully clockwise. 2 - Using FOCUS adjust the focus of the horizontal line in the middle of the screen have the best sharpness. 3 - Turn PL501 that the vertical lines at the edge of the screen have the best sharpness. 4 - Repeat if necessary these adjustments to optimise the sharpness.
Réglage focus pour les tubes extra plats (XF)	FOCUS **DFB** PL501		1 - Tourner PL501 à fond dans le sens des aiguilles d'une montre. 2 - Régler le potentiomètre "FOCUS" pour obtenir la ligne horizontale en milieu d'écran la plus fine possible. 3 - Régler PL501 pour obtenir la ligne verticale au bord la plus fine possible. 4 - Répéter si nécessaire ces réglages pour optimiser la finesse.
Fokus-einstellung bei extra flat-bildröhren (XF)			1- Stellen Sie PL501im Uhrzeigersinn auf Anschlag. 2- Gleichen Sie mit dem FOUS-Einsteller die mittlere horizontale Linie auf maximale Schärfe ab. 3- Gleichen Sie mit PL501 die Schärfe der vertikalen Linien in den Ecken des Bildschirms auf Maximum ab. 4- Falls notwendig wiederholen Sie den Abgleich, bis die optimale Bildschärfe erreicht wurde.
Regolazione fuoco per tubi extra flat (XF)			1 Ruotare PL501 completamente in senso orario. 2 Tramite la regolazione FUOCO regolare le linee orrinzontali al centro dello schermo fino ad avere la migliore definizione. 3 Regolare PL501 fino a che le linee verticali ai bordi dello schermo siano perfettamente definite. 4 Ripetere se necessario più volte queste regolazioni per ottimizzare la definizione.
Ajuste del foco para t.r.c. extraplano (XF)			1 - Girar PL501 totalmente hacia la izquierda 2 - Utilizando el ajuste FOCUS, enfocar las líneas horizontales del centro de la pantalla 3 - Girar PL501 hasta que las líneas verticales de las bordes de la pantalla tengan la mejor definición. 4 - Repetir estos ajustes hasta conseguir optimizar la definición.

DYNAMIC FOCUS MODULE - MODULE FOCUS DYNAMIQUE - DYNAMIKFOKUS BAUSTEIN - MODULO FUOCO DINAMICO - MÓDULO FOCO DINÁMICO



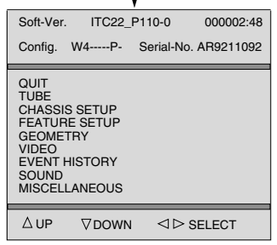
SERVICE MODE (EN) | MODE SERVICE (FR) | SERVICE - MODE (DE) | SERVICE - MODE (IT) | MODO SERVICIO (ES)

I - ENTER/EXIT SERVICE MODE - ENTREE/SORTIE DU MODE SERVICE - EIN-AUSTIEG SERVICE MODE - ACCESSO/USCITA ALLA/DALLA FUNZIONE - ENTRADA/SALIDA MODO SERVICIO

1 ACCESSING SERVICE MODE

TV Control Panel Access

• Switch the TV into "**Standby**" mode by pressing the Standby button on the RCU.
Wait till the TV goes into the standby.
• Press the **VOL-** button and then the **PR-** button on the TV keyboard.
Hold them down for more than 8 seconds.
• After the normal switch on time, when the 8 seconds have elapsed, the main service menu appears on the screen.

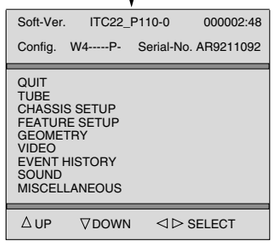


Note :
In service mode :
- Clear any wake-up/sleep/memo/EPG timers
- First installation Mode is overridden.
- Zoom and format are set to standard scanning
- Front Panel lock mode has to be cancelled.
- Pin 8 of the scart plug has to be ignored.
- AV- Link WSS detection and letterbox detection has to be disabled (autoformat).
- EPG and TELETEXT have to be disabled.
- All passwords have to disabled.
- On PTV set the Burn In Protection has to be disabled.

1 ACCES AU MODE SERVICE

Accès avec le clavier du téléviseur

• Mettre le téléviseur en position "**veille**" avec la télécommande utilisateur.
• Appuyer sur la touche **VOL-** puis sur la touche **PR-** du clavier du téléviseur.
Maintenir enfoncées ces touches ensemble plus de 8 secondes.
• Après le temps normal de mise en fonctionnement et lorsque les 8 secondes sont écoulées, le menu principal du Mode Service apparaît.

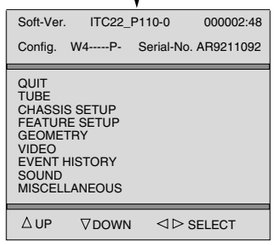


Note :
En mode service:
- La programmation des heures "reveil/matin", mémoire et EPG est annulée.
- Le premier mode d'installation est ignoré.
- Zoom et format sont initialisés au balayage standard.
- Le verrouillage du bloc de commandes du TV est effacé (réinitialisé).
- Pin 8 de la prise SCART ignorée.
- AV- Link , la détection WSS et la détection letterbox ne sont pas validées.
- Les fonctions EPG et Télétexte ne sont pas validées.
- Les mots de passe ne sont pas validés.
- Sur les modèles Rétroprojecteurs la fonction de protection aux brûlures de tube est dévalidée.

1 EINSTIEG IN DEN SERVICE MODE

Zugriff über die Tastatur des Fernsehgeräts

• Schalten Sie das Gerät mit der Fernbedienung in **Standby**.
• Drücken Sie die **VOL-** Taste und dann die **PR-**Taste am Nahbedienteil
des Gerätes. Halten Sie beide Tasten für länger als 8 Sekunden gedrückt.
• Nach der normalen Einschaltzeit erscheint auf dem Bildschirm das Menü des Service-Modes.

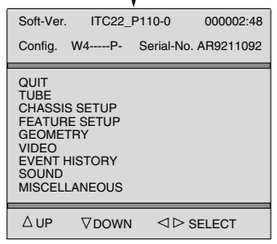


Anmerkung:
Im SERVICE MODE :
- werden alle Weck-, Schlummer-, Memo- und EPG-Timer gelöscht.
- Der Erstinstallations-Mode wird vom Service-Mode überlagert.
- Zoom und Bildformat werden auf Standardwerte gesetzt
- Die Bedienteilsperre wird aufgehoben
- wird die SCART - Schaltspannung nicht ausgewertet.
- AV-Link, WSS- und Letterbox-Detektion (Autoformat) sind abgeschaltet.
- sind Videotext und EPG abgeschaltet.
- werden alle Passworte gelöscht.
- Bei Rückprojektionsgeräten wird der Einbrennschutz außer Betrieb gesetzt

1 ACCESSO AL SERVICE MODE

tramite i comandi del televisore

• Posizionare il TV nel modo "**Standby**" usando il tasto standby del telecomando.Attendere che il TV si posizioni in standby.
• Premere prima il tasto **VOL-** e poi il tasto **PR-** sulla tastiera del TV Mantenere premuto idue tasti per più di 8 secondi.
• Dopo circa 8 secondi il TV si accenderà mostrando sullo schermo il menu service.

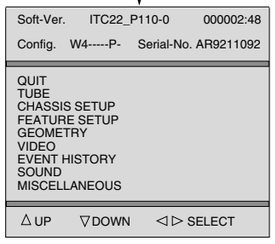


Nota :
Nel service mode:
- Cancella qualsiasi wake-up/sleep/EPG timers.
- Il primo modo di istallazione è ignorato
- Zoom e Format sono inizializzati alla scansione standard
- Il blocco pannello frontale è stato annullato
- Il piedino 8 della scart è ignorato.
- La rilevazione AV-Link WSS e rilevazione letterbox (formato) è statà disabilitata.
- EPG e TELEVIDEO sono stati disabilitati.
- Tutte le password sono state disabilitate
- Sui modelli PTV la protezione Burnt è stata disabilitata

1 ACCESO AL MODO SERVICIO

Acceso panel control TV

• Con el TV encendido, apagarlo con la tecla "**Standby**" del telemando. Asegurarse de que el aparato ha pasado a "Standby".
• Pulsar primero, la tecla VOL- y después PR- del teclado del TV. Mantenerlas pulsadas al mismo tiempo durante unos 8 segundos
• Después del arranque normal, cuando hayan pasado los 8 segundos, aparecerá el menú principal del Modo Servicio



Nota :
En modo servicio:
- Borrar despertador/función sleep/memorias/temporizadores EPG
- El modo primera instalación es ignorado.
- El zoom y el formato son inicializados a barrido estándar
- El bloqueo del teclado queda cancelado.
- La patilla 8 del SCART es ignorada
- La detecci6n de A V-Link, WSS y "modo buzón" (autoformato) se desactiva.
- EPG y TELETEXTO son desactivados
- Todas las contraseñas son desactivadas
- En los retroproyectores la opción "antimarcado" se desactiva

2 TEMPORARY EXIT FROM SERVICE MODE

- Press Exit on the Remote control.
- Everyday use menu can be accessed via Menu button.

- Field Service Menu can be re-entrered via Blue button.

2 SORTIE TEMPORAIRE DU MODE SERVICE

- Utiliser la touche Exit de la télécommande.
- Le menu utilisateur peut être accessible via la touche "Menu.

- Pour entrer à nouveau dans le mode service utliliser la touche bleue.

2 VORÜBERGEHENDES VERLASSEN DES SERVICE MODE

- Auf der Fernbedienung EXIT drücken
- Mit der Taste MENÜ gelangen Sie zum Menü ÜBERSICHT

- Mit der blauen Taste gelangen Sie zurück in den Service-Mode.

2 USCITA TEMPORANEA DAL SERVICE MODE

- Premere Exit sul telecomando.
- Al menu di uso quotidiano si accede attraverso il pulsante Menu

- É possibile rientrate nel Menu Service tramite il pulsante Blue.

2 SALIDA TEMPORAL DEL MODO SERVICIO

- Pulse Salir en el mando a distancia
- Con el botón Menu puede acceder al menú de uso cotidian

- Puede entrar al Menú Servicio con el botón azul.

3 EXITING FROM SERVICE MODE

Remote Control

- Go to the point QUIT in the Field service Mode main menu.
- Press ">" button
- TV mode.

on/off key or Stand-by

- Stand-by function or "off" with on/off key.

Values or adjustments are no stored before exiting from service mode will not be written into the NVM

3 SORTIE DEFINITIVE DU MODE SERVICE

télécommande

- Aller au point "QUIT" dans le menu principal du mode service.
- Appuyer sur ">"
- Mode TV.

Inter M/A ou Stand-by

- Foncion Stand-by ou "off" par M/A

Les valeurs ou réglages non mémorisés avant la sortie ne seront pas écrites en NVM.

3 ENDGÜLTIGES VERLASSEN DES SERVICE MODES

Fernbedienung

- Gehen Sie im Hauptmenü des Service-Modes mit dem Cursor auf die Zeile QUIT.
- Taste ">"drücken
- TV Modus

Netzschalter oder Standby

- Mit Standby-Funktion oder Netzschalter ausschalten

Werte und Einstellungen, die nicht vor dem Verlassen des Service-Modes gespeichert wurden, werden nicht in den Permanentspeicher (EEPROM) übernommen.

3 USCIRE DAL SERVICE MODE

telecomando

- Andare al punto QUIT nel Modo service del Menu principale
- Premere ">"
- Modo TV.

Tasto on/off

- Funzione Stand-by o "off" con il tasto on/off

Valori e regolazioni non memorizzati prima di uscire dal Modo service e non vengono scritti nell'NVM

3 SALIDA DEL MODO SERVICIO

telecomando

- Vaya al punto QUIT del menú principal de modo Servicio
- Pulse el botón ">"
- Modo TV.

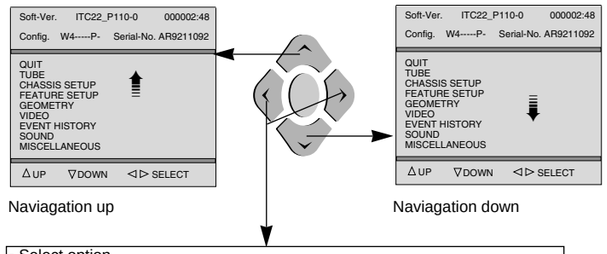
Tecla on/off de

-Stand-by o desconexión (off) con tecla on/off.

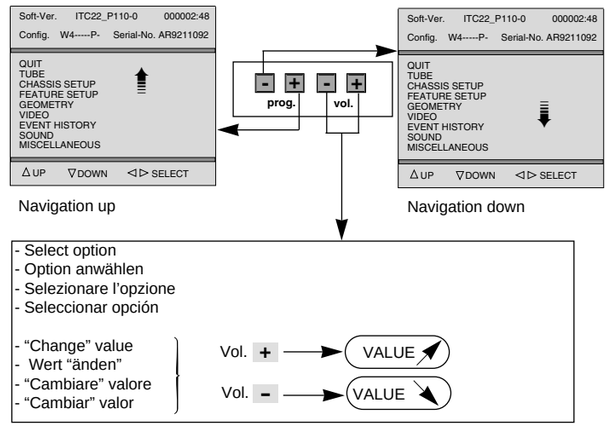
Los valores o ajustes no se guardan antes de salir del modo servicio y no se escriben en el NVM

II - NAVIGATION INSIDE THE SERVICE MODE - DEPLACEMENT DANS LE MODE SERVICE SUCHE IN SERVICE MODE - OPZIONI NEL SERVICE MODE - BUSQUEDA EN MODO SERVICIO

1 REMOTE CONTROL - TELECOMMANDE - FERNBEDIENUNG TELECOMANDO - MANDO A DISTANCIA



2 TV CONTROL PANEL - CLAVIER TV - TASTATUR DES FERNSEHGERÄTS - COMANDI DEL TELEVISORE -



3 MENUS WITH MULTIPLE PAGES - MENUS A PLUSIEURS PAGES MENÜS MIT MEHREREN SEITEN

Changing page - Changement de page
Seitenwechsel - Cambiare Pagina - Cambio de página

- When the highlight is on the first line of a menu a press on the « Δ » key display the previous page.
- When the highlight is on the bottom line of a menu a press on the « ∇ » key display the next page.

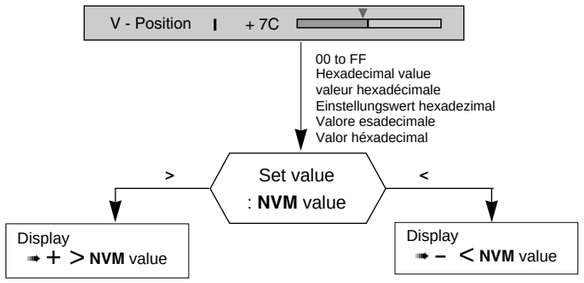
- Quand la 1ère ligne du menu est en surbrillance, un appui sur la touche « Δ » affiche la page précédente.
- Quand la dernière ligne du menu est en surbrillance, un appui sur la touche « ∇ » affiche la page suivante.

- Ist die oberste Menüzeile markiert, drücken Sie die « Δ »-Taste um die vorhergehende Seite anzuzeigen.
- Ist die unterste Menüzeile markiert, drücken Sie die « ∇ »-Taste um die nächste Seite anzuzeigen.

- Quando la prima linea del menu è illuminata premere il tasto « Δ » per visualizzare la pagina precedente.
- Quando l'ultima riga del menu è illuminata premere il tasto« ∇ »per visualizzare la pagina sucessiva.

- Cuando está seleccionada la primera línea de un menú, al pulsar « Δ » se pasa a la página anterior.
- Cuando está seleccionada la última línea de un menú, al pulsar « ∇ » se pasa a la página siguiente.

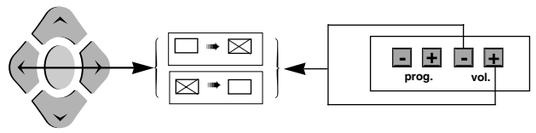
4 DISPLAYING THE VALUE OF THE SETTING - AFFICHAGE DES VALEURS - ANZEIGE DES EINSTELLUNGSWERTES VISUALIZZAZIONE DEL VALORE DELLA REGOLAZIONE - VISUALIZACION DEL VALOR DE AJUSTE



5 TOGGLE FUNCTIONS - VALIDATION DES FONCTIONS EIN-UND AUSSCHALTFUNKTIONEN - FUNZIONI DI COMMUTAZIONE - FUNCION CONMUTACION

To enable a function check (tick) ☒ the box.
Pour valider une fonction cocher ☒ la case correspondante
Zum Implementieren einer Funktion das Kontrollkästchen ☒ aktivieren (ankreuzen)
Per implementare una funzione di verifica, (vistare) ☒ la casella
Para poner en fucionamiento una función verifique (señale) ☒ la casilla

☒ : Implemented function ☐ : No implemented function



6 STORING VALUES IN MEMORY - MEMORISATION DES VALEURS - SPEICHERN DER WERTE - MEMORIZZAEZ I VALORI - VALORES ALMACENADOS EN LA MEMORIA

After setting, the values are stored in NVM.
Après réglages les valeurs sont mémorisées en NVM.
Nach dem Einstellen werden die Werte im NVM gespeichert.
Dopo la regolazione i valori vengono memorizzati in NVM.
Después del ajuste, los valores son almacenados en NVM

The box ☐ becomes ☒
During alignment, values are temporarily stored in RAM.
En cours d'alignement les valeurs sont mémorisées temporairement en RAM
Während des Abgleichs werden die Werte vorübergehend im RAM gespeichert
Durante l'allineamento i valori vengono memorizzati provvisoriamente sulla RAM
Durante el alineamento, los valores son almacenados temporalmente en RAM

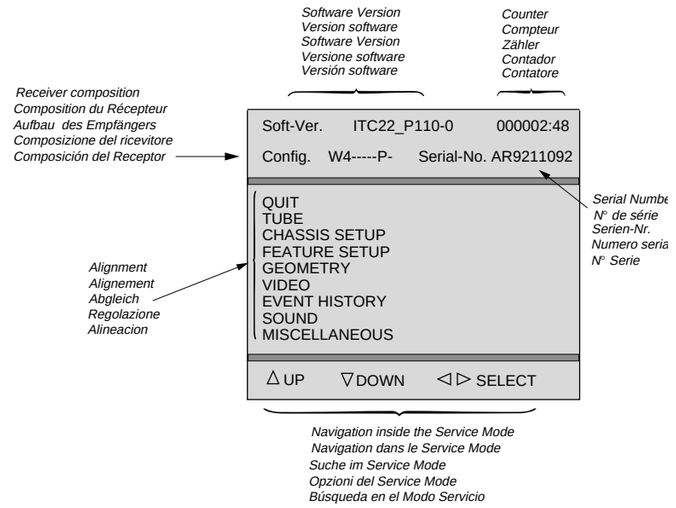
Store ➠ Copîes RAM values into NVM
Copie la valeur RAM en NVM
Kopieren des Wertes von RAM nach NVM
Copiare i valori RAM in NVM
Copiar valores RAM en NVM

Restore ➠ Copies all values from NVM into RAM.
Copie toutes les valeurs des données NVM en RAM
Kopiert alle NVM-Datenwerte in des RAM
Copiare tutti i valori da NVM sulla RAM
Copia todos los valores de NVM a RAM

Default ➠ All the default values of a page in use are stored in RAM.
L'ensemble des valeurs par défaut d'une page courante est chargé en RAM.
Sämtliche Standardwerte der aktuellen Seite werden ins RAM geladen
Tutti i valori di default di una pagina in uso vengono memorizzati sulla RAM
Todos los valores por defecto de la página en curso están almacenados en RAM.

III - LITE-MENU FOR FIELD SERVICE MODE - MENUS DU MODE SERVICE

1 MAIN MENU - MENU PRINCIPAL - HAUPTMENÜ



TV CONFIGURATION - CONFIGURATION DU TV - GERÄTEKONFIGURATION - CONFIGURAZIONE DEL TV - CONFIGURACIÓN Y TV

Config.	**W5Z.....V**

Character 1 : Tube type : "A"= 4:3 , "W" =16:9
Character 2 : AV4; "-" = not, "4" = yes
Character 3 : DVD / HDD; "-" = not, "D" = DVD, "H" = HDD (PVR)
Character 4 : "-" = not used
Character 5 : "-" = not used
Character 6 : "-" = not used
Character 7 : "-" = not used
Character 8 : Second Tuner (PIP) : "P" = yes, "-" = not
Character 9 : 3D Comb filter; "3" = yes, "-" = not

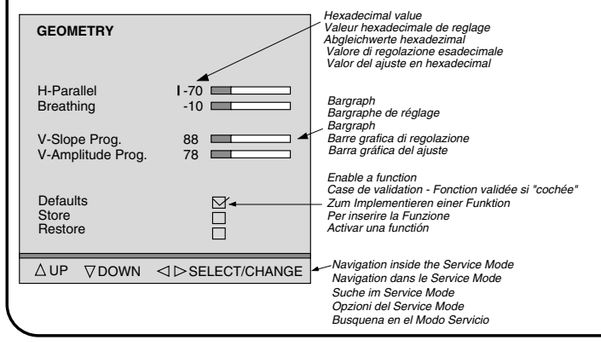
SERIAL-N°	**A15...**

Character 1 : Factory, A= Angers
Character 2 : Year : (N = 2001)
Character 3 : Month, from 1= January to 9=September...C=December.
Character 4-9 : Serial N° in the month (from 000000 to 999999)
Character 10-12 : Factory reserved

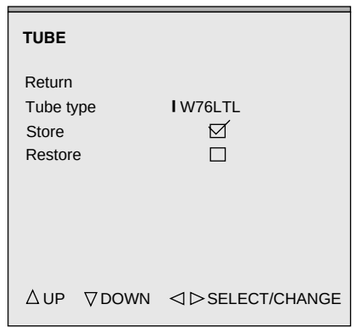
TIME COUNTER - COMPTEUR DE TEMPS - BERTRIEBSSTUNDENZÄHLER - CONTATORE - CONTADOR

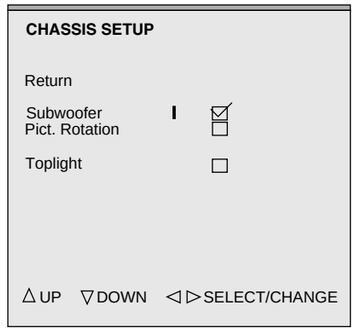
The counter indicates the TV's number of service hours.It is displayed as an eight-digit decimal. It shows the run time in hours and minutes.
Le compteur de temps indique le nombre d'heures de service du TV. L'affichage est composé de huit digits décimaux.
Der Betriebsstundenzähler zeigt die Betriebszeit des Gerätes in Stunden und Minuten an. Die Anzeige erfolgt als achtstellige Dezimalzahl.
Il contatore indica il numero di ore di servizio del TV. Vengono visualizzate tramite 8 digit decimali.Tale contatore mostra le ore e i minuti di funzionamento.
El contador indica el número de horas de servicio de la TV. Se muestra en formato decimal de ocho dígitos. Muestra el tiempo de funcionamiento en horas y minutos.

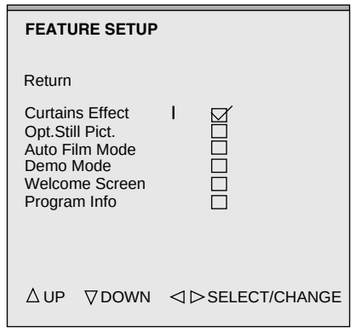
2 SUBMENU - SOUS-MENU - UNTERMENÜ



ALIGNMENT PROCEDURE - PROCESSUS DE REGLAGES - ABGLEICH - VISUALIZZAZIONE DEL VALORE DELLA REGOLAZIONE - PROCEDIMIENTO DE ALINEACION







TUBE

Return

Closes the sub-menu and returns to the "Main Service Menu"

Retourne au menu principal.

Schließt das Untermenü, und das Haupt-Menü des Service-Modus erscheint.

Chiude il sottomenu e fa apparire il menu principale Service Mode.

Cierra el submenú. El menú Field Service Mode aparece.

Press </>: remote control; Vol. +/- : TV keyb.

Tube type

After replacing the NVM, the correct tube type number must be entered (6 characters).
Once entered, the tubes geometry and video default values are immediately activated.
Variable geometry and video parameters are written to the NVM when the "STORE" line is selected. See below the tube type number list.

Definit le tube exact après changement de NVM.
Les nouvelles valeurs de tubes (avec video et géometrie) sont actives de suite.
Les paramètres de vidéo et de géométrie sont chargés en NVM lorsque STORE est sélectionné. Voir liste ci-dessous.

Nach dem Tausch des NVM (EEPROM) muB der richtige Bildrohrtyp eingegeben werden.
Es werden dann sofort die entsprechenden Geometrie-und Video-Defaultwerte aktiviert.
Variable Geometrie-und Videowerte müssen mit "STORE" in das NVM geschrieben werden.
Liste der Röhren: siehe unten.

Definire il tubo appropriato dopo aver cambiato la NVM; I valori per il nuovo tipo di tubo (con video e geometria) sono immediatamente attivi. I parametri per video e geometria variabili vengono immessi nella NVM quando viene selezionata la funzione Store.
Si veda la lista dei tubi riportata sotto.

Definir el tubo correcto después de haber cambiado el NVM.Los nuevos valores de tipo de tubo (con la vídeo y la geometría por defecto) se activan inmediatamente.
Los parámetros variables de geometría y vídeo se graban en el NVM al seleccionar la función Store. Vea más abajo la lista de tubos.

TUBE NAME	LIST	DESCRIPTION
W76LTL350X97(U)	W76LTL	16/9 32"XF (1)
W66ELC011X121	W66ELC	16/9 28"XF (2)
W86LQQ350X97(U)	W86LQQ	16/9 36"XF (2)
16X9 NT	-	-

(1) : Invar, dynamic Focus, BSVM TOSH.
(2) : Invar, static Focus, BSVM TOSH.

➡ **After setting** ➡ **Store** ☑

CHASSIS SETUP

Return

Closes the sub-menu and returns to the "Main Service Menu"

Retourne au menu principal.

Schließt das Untermenü, und das Haupt-Menü des Service-Modus erscheint.

Chiude il sottomenu e fa apparire il menu principale Service Mode.

Cierra el submenú. El menú Field Service Mode aparece.

Press </>: remote control; Vol. +/- : TV keyb.

Subwoofer*

Enable the subwoofer on equiped set.

Validation du Subwoofer sur les appareils équipés .

Einschalten des Subwoofers (wenn vorhanden).

Abilita il subwoofer negli apparecchi equipaggiati.

Validacióńde que existe el subwoofer.

☑ Subwoofer enable ☐ Subwoofer disable

Picture Rot*

Enables the "Earth Field Correction" function (EFC) on ITC222 16/9 and some large screen 4/3 by adding a special bargraph in the "personal settings" menu (user menus).
It is necessary to validate this function if the EFC correction circuit is inserted.

Valide la fonction "correction de champ magnétique terrestre" (EFC) sur les chassis ITC222 16/9 et les appareils 4/3 grand écran par addition d'un bargraphe spécifique dans le menu "réglages personnels" (menu utilisateur). Cette fonction doit être validée lorsque les circuits de correction "EFC" sont insérés.

Freigabe der Erdfeldkorrektur (EFC) bei ITC222 16/9 und einigen 4/3 Geräten. Im Menü "Eigene Einstellungen" (Menü "Installation") wird ein zusätzlicher Anzeigebalken eingeblendet Nach dem Einbau des EFC-Moduls ist diese Funktiozu aktivieren.

Attiva la funzione "Correzione del campo magnetico terrestre" (EFC) sul telaio ITC222 16/9 e alcuni grandi schermi 4/3 , aggiungendo una speciale barra grafica nei menu di "Menu Principale".
Se il circuito di correzione è montato, è necessario convalidare questa funzione.

Valida la función "corrección del campo magnético terrestre" (EFC) en los chasis ITC222 and some large screen 4/3 añadiendo una barra gráfica en el menú "Ajustes personales". Es necesario validar ésta función si el circuito de corrección EFC está montado.

☑ Rotation bargraph available menu, EFC function active.
☐ Rotation bargraph suppressed from personal settings, EFC circuit disactivated

Toplight*

Enable the "Toplight" function on equiped set.

Validation de la fonction "Toplight" sur les appareils équipés .

Aktivieren der "Toplight"-Funktion bei entsprechend ausgestatteten Geräten.

Abilitare la funzione “Top Light” nei set equipaggiati

Activa la función "Toplight" en los aparatos equipados con esta opción.

☑ Toplight enable ☐ Toplight disable

FEATURE SETUP

Curtains Effect

Enables the "Curtains Effect" function in the user preferences menus.

Valide la fonction "Effet de rideau" dans le menu des préférences utilisateurs.

Aktiviert die Funktion "Jalousie-Effekt" im Benutzer-Menü "Präferenzen".

Abilita "Effetto Tendina" funzione disponibile nel menu di preferenze.

Activa la función "Efecto Cortina" en los menús de preferencia del usuario.

☑ Curtains Effect function active.
☐ Curtains Effect function disactivated

Optimised Still Picture*

Enables the "Photo Mode" function in the user "Picture/Advanced use" menus .

Valide la fonction "Photo Mode" dans le menu "Image/Autres Réglages" des menus utilisateurs.

Aktivieren der “Photo-Mode”-Funktion im Benutzer-Menü "Bildeinstellungen/Weitere Einstellungen".

Abilitare nel menu "Immagine/Parametri avanzati" la funzione “Photo Mode”.

Activa la función "Modo Foto" en el menú de usuario "Imagen/Otros ajustes".

☑ Opt. Still picture active.
☐ Opt. Still picture disactivated

Auto film Mode*

Enables the "Film mode" function in the user "Picture/Advanced use" menus .

Valide la fonction "Mode film" dans le menu "Image/Autres Réglages" des menus utilisateurs.

Aktivieren der “Filmmode”-Funktion im Benutzer-Menü "Bildeinstellungen/Weitere Einstellungen".

Abilitare nel menu "Immagine/Parametri avanzati" la funzione "Modo film".

Activa la función "Modo Film" en el menú de usuario "Imagen/Otros ajustes".

☑ Auto film active.
☐ Auto film disactivated

Demo Mode*

Enables the "Demo" key on the RCU.

Valide la touche "Demo" sur la télécommande.

Einschalten die Taste "Demo" auf der Fernbedienung.

Abilita il tasto "Demo" del telecomando.

Validación de la tecla "Dem" del mando a distancia.

☑ Demo Mode active.
☐ Demo Mode disactivated

FEATURE SETUP

Welcome Screen*

Determines whether or not a Welcome Screen is shown during the Installation Mode.
When this checkbox is unchecked the "Contacts" user Menu will be disabled.

Valide l'écran de bienvenue durant le mode Installation.
Lorsque la case "Welcome Screen" n'est pas validée le menu utilisateur "Contacts" n'est pas valide.

Aktiviert den "Willkommen"-Bildschirm bei de Installation. Wenn diese Checkbox nicht markiert ist, wird das Benutzer-Menü "Contacts" nicht angezeigt.

Determina se lo schermo di Benvenuto viene mostrato durante il modo installazione.
Se la casella "Contacts" non viene selezionata il menu utilizzatore sarà disabilitato

Determina si durante el modo instalación se muestra o no la pantalla de bienvenida.
Cuando no está señalada la casilla el menú del usuario "Contactos" estará desactivado.

☑ Welcome Screen enable
☐ Welcome Screen disable

Program Info*

Enables "Program Info" in the "Overview" menu of user functions.

Valide "Program Info" dans le menu "Sommaire" des fonctions utilisateurs.

Aktivieren der “ProgramInfo”-Funktion im Benutzer-Menü "Übersicht".

Abilitare nel menu "Sommario" la funzione “Programm Info”

Activa la opción "Program Info" en el menú de usuario "Sumario".

☑ Program Info enable.
☐ Program Info disable.

* *Changes are saved directly into NVM*

Tout changement est directement sauvegardé en NVM.

Die Werte werden direkt im NVM gespeichert

I cambiamenti sono salvati direttamente nella NVM.

Los cambios son directamente guardados en la NVM

ALIGNMENT PROCEDURE - PROCESSUS DE REGLAGES - ABGLEICH - VISUALIZZAZIONE DEL VALORE DELLA REGOLAZIONE - PROCEDIMIENTO DE ALINEACION

GEOMETRY	50Hz/100Hz*
Return	
V-Slope	A8
V-Amplitude	74
V-Position	74
V-Linearity	4C
H-Position	78
H-Amplitude	C4
EW-Amplitude	94
EW-Trapezium	6C
EW-Symmetry	70
EW-Upper Corner	6C
EW-Lower Corner	84

△UP ▽DOWN ◁▷SELECT/CHANGE

*Test Bar pattern used : 4/3 (50Hz/60Hz) with a geometric circle. Complete geometry Adjustment is done according to chassis tube format : **4/3** mode for **4/3** tubes; **16/9** mode for **16/9 tubes** : see annexed .*

*Mire de barre utilisée : 4/3 (50Hz/60Hz) avec cercle de géométrie. les réglages complets de géométrie sont faits dans le format du tube équipant l'appareil : mode **4/3** pour les tubes **4/3**; **16/9** pour les appareils équipés de **tubes 16/9** (Voir ci-contre).*

*Verwendetes Testbid : 4/3 (50Hz/60Hz) mit geometrischem Kreis. Ein vollständiger Geometrie-Abgleich ist nur notwendig bei: **4/3-Röhren** Zoomstufe **4/3** und **16/9-Röhren** Zoomstufe **16/9** (siehe unten) .*

*Formato Testo utizzato: 4/3 (50Hz/60Hz) con cerchio geometrico. La regolazione viene effettuata nel formato del telaio del cinescopio: **4/3** :tubo **4/3**; **16/9** : tubo **16/9**.*

*Carta de ajuste utilizada : 4/3 (50Hz/60Hz) con círculo geométrico. El ajuste completo de la geometría hay que hacerlo de acuerdo con el tipo de chasis y el formato del tubo : Modo **4/3** para tubos de **4/3**; modo **16/9** para tubos de **16/9**.*

** 50/100Hz or 60/120Hz according to signal*

GEOMETRY	50Hz/100Hz*
H-Parallel	80
Breathing	E0
V-Slope Prog.	88
V-Amplitude Prog.	78
Defaults	☐
Store	☐
Restore	☐

△UP ▽DOWN ◁▷SELECT/CHANGE

GEOMETRY

V-Slope

- Apply a test pattern signal to the TV with a single horizontal and vertical line on the screen.
- Select the "**V-Slope**" line of the menu. The bottom half of the screen will go black.
- Adjust VS until the centre line of the pattern is just invisible.
- Leave the line "**V-Slope**".
- Switch the test pattern signal to the crosshatch geometry pattern.
- Perform the geometry adjustments described below.

- Appliquer une mire de barres avec seulement une ligne blanche horizontale en milieu de l'écran.
- Sélectionner la ligne "**V-Slope**". La moitié basse de l'écran devient noire.
- Aligner "**V_Slope**" pour que la ligne médiane soit à peine non visible.
- Commuter la mire en mode de réglage de géométrie (quadrillage).
- Effectuer les reglages de geometrie.

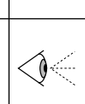
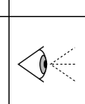
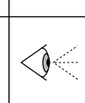
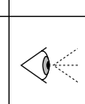
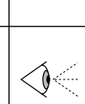
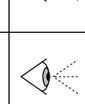
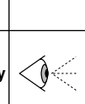
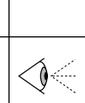
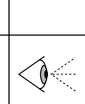
- Speisen Sie ein Testbild mit einem horizontalen Strich in der Bildmitte ein.
- Wählen Sie im Menü die Funktion "V-Slope" an. Die untere Bildhälfte wird dunkel.
- Stellen Sie "V-Slope" so ein, daß die Mittellinie fast verschwindet.
- Verlassen Sie die Funktion "V-Slope".
- Speisen Sie ein Gittertestbild ein.
- Nehmen Sie die Geometrieeinstellungen wie nebenstehend beschrieben vor.

- Applicare un monoscopio con un'unica linea bianca orizzontale al centro dello schermo
- Selezionare la riga "**V-slope**" del menu. La parte bassa dello schermo viene oscurata.
- Allineare la "Vertical Slope" in modo che la linea centrale sia appena visibile
- Abbandonare la riga "**V-slope**".
- Posizionare il monoscopio
- Effettuare le regolazioni di geometria descritte in precedenza
- Memorizzare.

- Aplique una carta de ajuste con sólo una línea blanca horizontal y una vertical en el centro de la pantalla.
- Seleccionar en el menú, la línea "**V-Slope**". La mitad inferior de la pantalla se pondrá oscura.
- Ajuste "**V-Slope**" justo hasta que la línea horizontal sea invisible.
- Cambiar la carta de ajuste a "cuadrícula" y efectuar los ajustes de geometria descritos a continuación
- Antes de salir, memorizar con "Store"

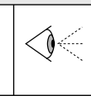
➞ After setting ➞ Store ☑

GEOMETRY

V-Amplitude		
V-Position		
V-Linearity		
H-Position		
H-Amplitude		
EW - Amplitude		
EW - Trapezium		
EW-Symmetry		
EW-Upper Corner		
EW-Lower Corner		

➞ After setting ➞ Store ☑

GEOMETRY

H-Parallel		

Breathing
EHT compensation

Factory adjusted
Réservé au réglage usine
Reserviert für Fabrikeinstellungen
Riservato alla regolazione di fabbrica
Ajuste reservado fábricas

V-Slope Prog.*

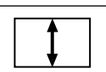
Select the "**V-Slope Prog.**" line of the menu and process as V-Slope adjustment.

Sélectionner la ligne "**V-Slope Prog.**" et procéder comme pour le réglage V-Slope

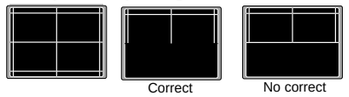
Wählen Sie die Menüzeile "**V-Slope Prog.**" an und fahren mit dem Abgleich wie unter „V-Slope“ beschrieben fort.

Selezionare la linea "**V-Slope Prog.**"nel menu e procedere come per la regolazione V-Slope.

Seleccionar la línea "**V-Slope Prog.**"del menú y proceder como para el ajuste V-Slope.

V-Amplitude Prog.*		

V-Slope / V-Slope Prog.



Correct No correct

** An error message is displayed in case of connected progressive (2H/1V) signal on components (AV4) input.*

Un message d'erreur est affiché en cas de source de signal progressif (2H/1V) connectée sur l'entrée composantes (AV4).

Sollte eine progressiv abgetastete Signalquelle (1H/1V) am Komponenten-Eingang AV4 angeschlossen sein, erscheint eine Fehlermeldung.

Un messaggio messaggio Error viene visualizzato nel caso una sorgente segnale progressivo (2H/1V) collegato sull'entrata component AV4.

Se muestra un mensaje de error en el caso de conectar una señal progresiva (2H/1V) en la entrada de componentes (A V4).

➞ After setting ➞ Store ☑

RASTER SHIFT CORRECTION - CENTRAGE DE BALAYAGE HORIZONTAL - BILDLAGE-EINSTELLUNG CENTRATURA DEFLESSIONE ORIZZONTALE - CORRECCIÓN DEL CENTRADO HORIZONTAL

- Check and adjust if necessary the Raster shift correction.
  See "Adjustments" table p. 11.

- Contrôler et régler si nécessaire le centrage de balayage horizontal
  Voir le tableau des réglages page 11.

- Überprüfen Sie die Einstellung der Bildlage und korrigieren Sie diese ggf. wie in der Tabelle "Abgleich" auf Seite 11 beschrieben.

- Controllare e regolare se necessario la correzione raster.
- Vedere le regolazioni alla tavola pag 11.

-Comprobar y ajustar si es necesario el centrado del barrido horizontal.
Ver la tabla de ajustes en pág. 11.

GEOMETRY MODE ALIGNMENT

A ITC222 16/9 set needs a geometry alignment only in the 16/9 mode and additionally an alignment of V-Slope Prog., V-Amplitude Prog. in progressive mode. All other formats and zoom mode are calculated.

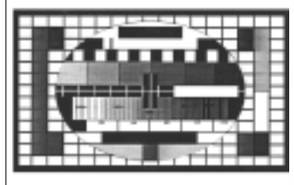
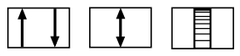
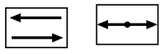
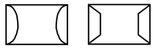
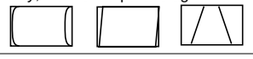
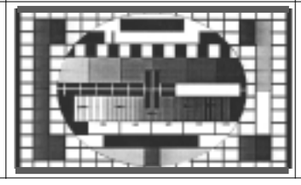
Un chassis ITC222 16/9 ne nécessite des réglages de géométrie que dans le mode 16/9 et additionnellement un réglage de V-Slope Prog., V-Amplitude Prog en mode progressif. La géométrie des autres formats et zoom est calculée.

Beim Chassis ITC222 ist ein Geometrie-Abgleich nur im Bildformat 16:9 und zusätzlich der Abgleich von V-Slope Prog und V-Amplitude Prog. im Progressiv-Mode not-wendig. Alle anderen Formate und Zoomstufen werden berechnet.

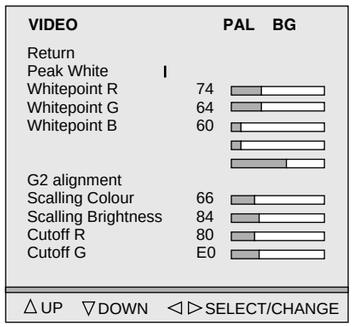
I telai ITC222 16/9 richiedono la regolazione di geometria solo in formato 16/9 e un addizionale regolazione V-Slope Prog., V-Amplitude Prog in progressive mode. tutti gli altri formati e modo zoom vengono calcolati.

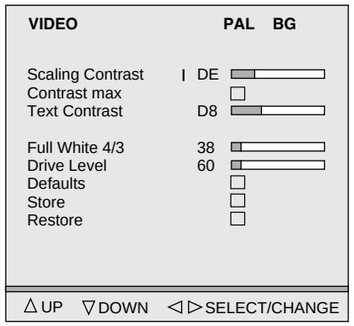
Un TV ITC222 16/9 necesita ajuste de geometría sólo en el modo 16/9 0 y adicionalmente un ajuste del V-Slope Prog y V-Amplitude Prog en modo progresivo. Todos los demás formatos y modos de zoom se calculan automáticamente.

Signal : 4/3 test pattern

16 / 9 standard mode zoom 0		**Overscan V=107%, H =104%** 1- Adjust Vertical Slope. 2- Adjust Vertical position and Vertical amplitude 3- Adjust Vertical linearity  4- Adjust Horizontal Position and Horizontal amplitude  5-Adjust EW Amplitude, EW Upper/Lower Corner,  6-Adjust EW Symmetry, Horizontal parallelogram and EW Trapezium 
16 /9 progressive mode		**Overscan V=107%, H =104%** 1- Adjust Vertical Slope. 2- Adjust Vertical Amplitude

ALIGNMENT PROCEDURE - PROCESSUS DE REGLAGES - ABGLEICH - VISUALIZZAZIONE DEL VALORE DELLA REGOLAZIONE - PROCEDIMIENTO DE ALINEACION





VIDEO	PAL
Return	
Closes the sub-menu and returns to the "Main Service Menu"	
Retourne au menu principal.	
Schließt das Untermenü, und das Haupt-Menü des Service-Modes erscheint.	
Chiude il sottomenu e fa apparire il menu principale Service Mode.	
Cierra el submenú. El menú Field Service Mode aparece.	
Press </>: remote control; Vol. +/- : TV keyb.	
Peak-White**	☼+◑+◕ = standard Peak white test pattern white =100% PAL, SECAM, RGB,RGB_AUX COMP1H, COMP2H Colourimeter Tube Type / [Nits]: W76LTL 310; W66ELC -; W86LQQ 300
Whitepoint R*	☼+◕+◑ = standard Grey scale test pattern white =50% RF-PAL/SECAM RGB, RGB_AUX COMP1H, COMP2H grey
Whitepoint G*	
Whitepoint B*	
G2 Alignment	
Display a full screen black OSD. Adjust G2 with SCREEN potentiometer: see adjust table (p.11/12)	
Ecran totalement noir. Régler G2 avec le potentiomètre SCREEN : voir tableau des réglages.(p.11/12).	
Das Bild wird dunkelgetastet Gleichen Sie G2 mit dem SCREEN-Potentio-meter wie auf seite 11/12. beschrieben ab.	
Visualizzare uno schermo nero e regolar il potenziomero G2 riferendos alla tabella regolazione (p.11/12)	
Pantalla totalmente oscura sin OSD. Ajustar la G2 con el potenciómetro SCREEN: ver tabla (p.11/12).	

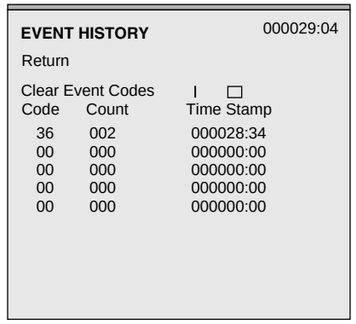
Color standard or RGB is autodetected and displayed opposite the displayed opposite the menu title.

VIDEO	PAL
Scaling Colour*	☼+◕+◑ = standard PAL, SECAM, RGB COMP1H, COMP2H 75% Colour bar test pattern via RF. Blue Cathode CRT F-H
Scalling Brightness	☼+◕+◑ = standard Grey scale test pattern white =100% black
Cutoff R	Factory adjusted Réservé au réglage usine Reserviert für Fabrikeinstellungen Riservato alla regolazione di fabbrica Ajuste reservado fábricas
Cutoff G	
Scalling Contrast	
Contrast max	
Set (temporary) the user contrast bargraph to max. When "Contrast max." is deselected the user contrast bargraph set back to the previous value.	
Met (temporairement) le baragraphe du réglage de contraste utilisateur au maximum. Lorsque "Contrast max." est déselectionné Le baragraphe revient à sa valeur initiale.	
Setzt (temporär) den User-Kontrast auf Max.Nach dem Abschalten von 'Contrast max' wird auf der Bar-Graph auf vorherigen Wert zurückgesetzt	
Regolare (momentaneamente) la barragrafica del contrasto al massimo.Quando "Contrasto massimo" viene disinserito la barra grafica utilizzatore viene regolata al volume precedente.	
Ajusta (temporalmente) la barra de contraste del usuario al máximo. Cuando no esté seleccionado "Contraste Máximo" la barra de contraste del usuario vuelve a su valor anterior.	
☑ Contrast max. enable	
☐ Contrast max. disable	
➡ After setting	**➡ Store (+) ☑**

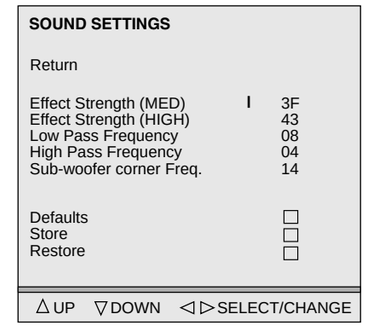
VIDEO	PAL
Text Contrast	☼+◕+◑ = standard
Adjust Text contrast for V=60V at pin 11 (Blue) of the CRT : 40% V peak white	
Ajuster Text Contrast pour obtenir un niveau de sortie V=60V sur la cathode Bleue du tube (point 11 de la CRT): 40% V peak white.	
Stellen Sie mit Text Contrast V=60V an der Blau-Kathode (Pin 11) der Bildröhre ein: 40% Vpeak white	
Regolare il guadagno contrasto televideo per ottenere al catodo del blu un livello pari a V=60V (CRT pin 11): 40% Vpeak white.	
Ajuste Text Gain para dejar V=60V en azul del TRC (CRT Patilla 11): 40% Vpeak white	
Text Contrast D8 / V=60V — CRT Pin 11	
Full White 4/3	Factory adjusted Réservé au réglage usine Reserviert für Fabrikeinstellungen Riservato alla regolazione di fabbrica Ajuste reservado fábricas
Drive Level	
➡ After setting	**➡ Store (+) ☑**

Note :
* Adjust separate for PAL RF/SECAM RF and RGB_AUX

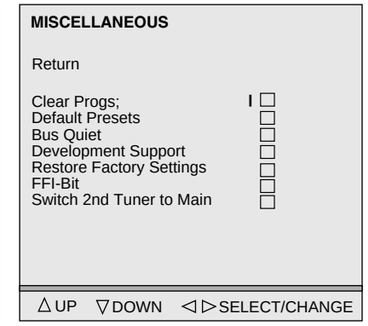
** After PEAK white adjustment control whitepoints setting.
Repeat the adjustments if necessary.



EVENT HISTORY
Return
Closes the sub-menu and returns to the "Main Service Menu"
Retourne au menu principal.
Schließt das Untermenü, und das Haupt-Menü des Service-Modes erscheint.
Chiude il sottomenu e fa apparire il menu principale Service Mode.
Cierra el submenú. El menú Field Service Mode aparece.
Press </>: remote control; Vol. +/- : TV keyb.
Clear Event Codes
To clear all event codes stored in the NVM. Action: Long press (> 2.5sec.).
Press </>/OK: remote control.
CODE
1- The last five error codes are stored and displayed with a time stamp from the run time counter 2- If an error occurs that is already in the list the time stamp is updated . 3- The errors are displayed with the most recent error on top of the list. The others follow with descending time stamps.
List of Errors Codes : see table
1- Mémorise les cinq derniers codes erreurs. Le cumul du temps de fonctionnement entre le démarrage initial du chassis en usine et le moment où s'est produit l'erreur est indiquée en colonne "Time stamp". 2. Si une erreur qui est déjà dans la liste survient de nouveau le temps cumulé (Time stamp) est mis à jour. 3- Les erreurs les plus récentes sont affichées en tête de liste. Les autres suivent en descendant.
Voir ci-après la liste des codes erreurs
1. Es werden die letzten 5 Fehlercodes mit der Laufzeit des Auftretens angezeigt. 2. Tritt ein Fehler auf, der schon in der Liste steht, wird nur die Laufzeitanzeige aktualisiert. 3. Der zuletzt aufgetretene Fehler steht an erster Stelle. Die vorhergegangenen Fehler werden nach abnehmender Laufzeit gelistet.
Aufstellung der Fehlercodes: siehe Tabelle
1- Gli ultimi cinque codici errore vengono memorizzati e visualizzati con un time stamp dal run time counter. 2- Se si manifesta un errore già presente nella lista il time stamp viene aggiornato 3- Gli errori vengono visualizzati con l'errore più recente in cima alla lista.
Gli altri errori seguono con sequenza discendente del time stamp
Lista Codici Errore: segue tabella
1- Los últimos 5 códigos de error son almacenados desde el contador de tiempo de vida y mostrados en la columna "time stamp" 2- Si ocurre un error que ya existe en la lista, éste se actualizará al último "time stamp" 3- Los errores más recientes son los mostrados en la parte superior de la lista. Los demás siguen en orden descendiente de "time stamp"
Lista de códigos de error: ver tabla



SOUND SETTINGS
Return
Closes the sub-menu and returns to the "Main Service Menu"
Retourne au menu principal.
Schließt das Untermenü, und das Haupt-Menü des Service-Modes erscheint.
Chiude il sottomenu e fa apparire il menu principale Service Mode.
Cierra el submenú. El menú Field Service Mode aparece.
Press </>: remote control; Vol. +/- : TV keyb.
Adjust "Sound settings" registers according to the TV environments (refer to the below table) when the NVM memory has been replaced. On entering this menu the sound mode will be switched to normal and the "Dynamic Bass" feature activated.
Règle le contenu des registres "Sound settings" selon l'environnemnt du TV en cas de remplacement de la NVM. (voir table ci-dessous) en entrant dans ce menu le mode son est commuté en normal et les caractéristiques "Dynamic Bass" sont activées.
Wurde das NVM (EEPROM) erneuert, müssen im Menü "SOUND SETTINGS" die Werte entsprechend der unten stehenden Tabelle eingestellt werden. On entering this menu the sound mode will be switched to normal and the "Dynamic Bass" feature activated.
Quando viene sostituita la memoria NVM regolare i registri "Sound setting" in funzione all'anbientazione TV (riferirsi alla tabella sottoindicata). On entering this menu the sound mode will be switched to normal and the "Dynamic Bass" feature activated.
Ajustar los "Parámetros de Sonido" de acuerdo a las características del modelo de TV (ver tabla),después de sustituir la memoria NVM. On entering this menu the sound mode will be switched to normal and the "Dynamic Bass" feature activated.
Effect Strength (MED) 3F Effect Strength (HIGH) 43 Low Pass Frequency 08 High Pass Frequency 04 Sub-woofer corner Freq. 14
➡ After setting **➡ Store (+) ☑**



MISCELLANEOUS
Return
Closes the sub-menu and returns to the "Main Service Menu"
Retourne au menu principal.
Schließt das Untermenü, und das Haupt-Menü des Service-Modes erscheint.
Chiude il sottomenu e fa apparire il menu principale Service Mode.
Cierra el submenú. El menú Field Service Mode aparece.
Press </>: remote control; Vol. +/- : TV keyb.
Clear Progs.
Clears all programms stored in memory and resets all Picture and Sound settings to the factory defaults. The AUTO INSTALL (out of factory) mode can be initialised by a long press (>2s.) of the selection button.
Efface tous les programmes mémorisés. Valeurs SON et IMAGES: valeurs usines. Fonction valide par une longue pression (>2s.) sur la touche de sélection </>.
Löscht alle Programmplätze und setzt alle Bild- und Toneinstellungen auf Fabrikwerte zurück. Der AUTO-INSTALL-Modus kann durch einen langen Knopfdruck (>2s) initialisiert werden.
Clear Prog. Cancella tutti i programmi in memoria e regola i Valori analogici SUONO IMMAGINE: ai livelli di fabbrica.Riportare la TV al modo Selezione: pressione prolungata: 2 sec. su il pulsante </>.
Programa de borrado. Borra todos los programas almacenados en la memoria.Valores analógicos de IMAGEN y SONIDO: valores de fábrica.Regreso a la TV para "salir del modo fábrica".Selección: Presión larga igual a 2s.
☑ Clear Progs enable
☐ Clear Progs disable
Default Presets
Sets the default (ROM) value for all the factory sound and picture presets.
Initialise aux valeurs par défaut (ROM) les réglages usine du son et de l'image.
Aktiviert die Default- (ROM-) Werte für alle Ton- und Bildvoreinstellungen.
Regolare i valori di default (ROM) valori di fabbrica per le regolazioni suono e Video
Fija el valor del valor por defecto (ROM) para todas las precolocaciones del sonido y del cuadro de la fábrica.
☑ Default Presets enable
☐ Default Presets disable

ALIGNMENT PROCEDURE - PROCESSUS DE REGLAGES - ABGLEICH - VISUALIZZAZIONE DEL VALORE DELLA REGOLAZIONE - PROCEDIMIENTO DE ALINEACION

MISCELLANEOUS

Return

Clear Progs; ☐
Default Presets ☐
Bus Quiet ☐
Development Support ☐
Restore Factory Settings ☐
FFI-Bit ☐
Switch 2nd Tuner to Main ☐

△UP ▽DOWN ◁▷SELECT/CHANGE

MISCELLANEOUS

Bus Quiet

In "Bus Quiet", the NVM can be read, modified and reprogrammed by means of a NVM Programmer.
To access "Bus Quiet" : Long press ">".
The TV should remain in "Bus Quiet" mode until either Exit, Left, Right, Up,Down or Standby keys on the RCU or local keyboard are pressed; at which point the TV should carry out a warmstart in order to prevent differences between the NVM and RAM contents.
After returning from Bus Quiet, the software checks the NVM content.
If it is not valid, the software perform a new default writing of the NVM content.

En mode bus quiet la NVM peut être lue, modifiée et reprogrammée.
Accès au mode Bus quiet :
Longue pression ">".
Utiliser l'une des touches Exit, Gauche, Droite Haut, Bas, standby ou une des touches du clavier pour sortir le téléviseur du mode bus quiet.
A partir de ce point de sortie le démarrage du téléviseur s'effectue à chaud pour éviter toute différence des contenus RAM et NVM.
En sortie de mode bus quiet, le logiciel contrôle le contenu de la NVM.
S'il n'est pas correct le logiciel exécute une nouvelle écriture par défaut de celle-ci.

Im "Bus Quiet"-Modus kann der Inhalt des NVM mittels eines externen NVM-Programmiergerätes ausgelesen, geändert oder neu programmiert werden. "Bus Quiet" wird einem längeren Druck auf ">" aktiviert.
Das Gerät bleibt solange im "Bus Quiet" - Mode, bis durch Druck auf die EXIT-, LINKS-, RECHTS-, HOCH-, RUNTER- oder STANDBY-Taste (am Gerät oder auf der Fernbedienung) ein Warmstart des Gerätes veranlaßt wird, um unterschiedliche Daten in RAM und NVM zu vermeiden.
Es folgt ein Software-Check des NVM-Inhaltes.
Sollte dieser nicht gültig sein, wird der Inhalt mit Default-Werten überschrieben.

In Modo Bus Quiet, la memoria NVM può essere letta, modificata o riprogrammata.
Per accedere al modo Bus Quiet premere a lungo il tasto ">".
Il TV rimane in modo Bus Quiet
fino a che vengono premuti i tasti Exit, o Destro Sinistro, Su o Giù o Standby dal telecomando o dalla tastiera locale; a questo punto il TV riparte per evitare
interferenze tra i contenuti della memoria NVM e della RAM.
All'uscita dal modo Bus Quiet, il software controlla il contenuto della memoria NVM. Se tale contenuto non è valido, il software provvede a una nuova programmazione della NVM con l'inserimento dei dati di default.

En bus quieto, la NVM puede ser leída, modificada y reprogramada.
Acceso a bus quieto : Larga presión en ">"
El TV permanecerá en bus quieto hasta que se pulse cualquiera de las teclas siguientes: Exit, "<", "^", "V", ">"o Standby del telemando o del teclado.
En este momento el TV arrancará para evitar cualquier diferencia entre los contenidos de la RAM y NVM.
Al salir del modo bus quieto, el software comprueba el contenido de la NVM.
Si no coincide, el software ejecuta la escritura de los datos en la NVM.

☑ Bus quiet enable ☐ Bus quiet disable

MISCELLANEOUS

Developpement Support

Factory adjusted
Réservé au réglage usine
Reserviert für Fabrikeinstellungen
Riservato alla regolazione di fabbrica
Ajuste reservado fábricas

Restore Factory Settings

Restores the correct "out of box" condition. Some settings will be restored from a reserved backup NVM area and others will be defaulted from the ROM.

Remet les réglages aux valeurs de sortie usine. Certaines valeurs sont restaurées à partir d'une zone de mémoire NVM et d'autres à partir des valeurs par défaut de la ROM.

Überschreibt den jeweiligen Abgleich mit Werten aus dem ROM und aus besonderen, reservierten Bereichen des NVMs.
Der Abgleich entspricht dann dem, den das Gerät beim Verlassen der Produktionsstätte hatte.

Rimettere le regolazioni ai valori di fabbrica Alcune regolazioni saranno ripristinate da una zona riservata dalla memoria NVM, altre regolazioni saranno riprese dalla ROM di default.

Vuelve a poner los ajustes a los valores de salida de la fábrica.
Se restauran algunos valores a partir de una zona de memoria NVM y de otros a partir de los valores por defecto de la ROM.

FFI - Bit	Fast Filter (IF / PLL) Filtre rapide (FI / PLL) Schnelles filter (ZF / PLL) Filtro /rapido (IF / PLL) ☑ Asia ☐ Europe

Switch 2nd Tuner to Main

The current signal on the second tuner is switched to the main screen and the AV1 output.
Changing program/channel on main tuner, the main screen stays on the second tuner.

Commute le signal du second tuner en image principale et en sortie AV1.
L'écran reste sur l'image du secont tuner malgré tout changement de programme/canal sur le tuner principal.

Das jeweilige Eingangssignal des zweiten Tuners wird auf dem Hauptbildschirm dargestellt und auf den AV1-Aushang geschaltet.
Bei einem Programm/Kanalwechsel auf dem Haupttuner bleibt das Bild des zweiten Tuners auf dem Hauptbildschirm sichtbar.

Commutare il segnale del secondo tuner sullo schermo e in uscita AV1
Lo schermo resta sull'immagine del secondo tuner, malgrado tutti i cambiamenti di progamma/canale sul tuner principale

La señal actual en el segundo sintonizador se cambia a la pantalla principal y a la salida AV1.
Program/channel que cambia en el sintonizador principal, la pantalla principal permanece en el segundo sintonizador.

☑ Switch 2nd Tuner to Main enable
☐ Switch 2nd Tuner to Main disable

ERROR CODES

EN

11	I2C bus_1 data line held low
12	I2C Bus_1 clock line held low
13/95	I2C Bus_2 data line held low
14/95	I2C Bus 2 clock line held low
15	I2C Bus_3 data line held low
16	I2C Bus 3 clock line held low
17	I2C Bus_4 data line held low
18	I2C Bus 4 clock line held low
19	Invalid chassis detected
25	Main tuner doesn't answer anymore
26	Secondary tuner (PIP) doesn't answer anymore
27	IX300 (TEA6415C) doesn't answer anymore
28	IV300 (TA1360) doesn't answer anymore
29	9V IV300 Power down detection
31	IV400 (TDA9330H) doesn't answer anymore
32	8V IV400 Power down detection
33	BV500 not connected
34	PHI2_REF not available
35	NRF bit problem. IV400 TDA9330 (HOP) oscillator not locked
36	Tube gets not warm in time
37	V_GUARD does not available
38	XPR Bit. IV400 (TDA9330H).X radiation safety activated.
39	PH1 problem, IV400 TDA9330 (HOP) oscillator not lock in time
41	IA001 (MSP) doesn't answer anymore
42	The reset bit IA001 (MSP) is active
45	Wrong MSP is fitted
46	Main FI doesn't answer anymore
47	FI 5V Power down detection
48	PIP FI doesn't answere anymore
49	5V PIP FI Power down detection
54	IV100 (VSP9407) doesn't answer anymore
55	IR006 (PCF8574) doesn't answer anymore
56	Bit FLS problem IV400 (TDA9330)
58	Code validation failed
59	Wrong IR001 is fitted
61	5VON not present
62	5V and 8V not available
63	Unexpected level on NMI line found
64	XRP adjustment detected overvoltage
65	Write to NVM failed
66	NVM Contents are corrupt
68	The switched 5V not available
69	H/V Synch. for OSD missing
72	IX400 (CXA2151) doesn't answer anymore
93	IR001 : Err_I2C Bus_1 and Err_I2C Bus_2 (Bus drivers)
94	IR001 : Err_I2C Bus_3 and Err_I2C Bus_4 (Bus drivers)
95	IR001 : Err_I2C. Port driver can not be installed
96	IR001 : ADC driver can not be installed
97	IR001 : AV-link driver can not be installed
98	SDRAM (IR110) Problematic SDRAM timing
99	IR001 Watchdog hit

FR

11	I2C bus_1 data est au niveau bas
12	I2C bus_1 clock est au niveau bas
13/95	I2C bus_2 data est au niveau bas
14/95	I2C bus_2 clock est au niveau bas
15	I2C bus_3 data est au niveau bas
16	I2C bus_3 clock est au niveau bas
17	I2C bus_4 data est au niveau bas
18	I2C bus_4 clock est au niveau bas
19	Erreur de chassis détecté
25	Tuner principal ne répond pas
26	Tuner secondaire (PIP) ne répond pas
27	IX300 (TEA6415C) ne répond pas
28	IV300 (TA1360) ne répond pas
29	Chute de l'alimentation 9V IV300
31	IV400 (TDA9330H) ne répond pas
32	Chute de l'alimentation 8V IV400
33	BV500 déconnecté
34	PHI2_REF absent
35	NRF bit problème IV400 TDA9330 (HOP) oscillateur non verrouillé
36	Tube ne chauffe pas à temps
37	V_GUARD does not available
38	XPR IV400 (TDA9330H).Sécurité rayons X activée.
39	PH1, IV400 TDA9330 (HOP) oscillateur non verrouillé à temps
41	IA001 (MSP) ne répond pas
42	IA001 (MSP) en reset
45	Mauvais MSP monté
46	FI principale ne répond pas
47	Chute alimentation 5V FI principale
48	FI PIP ne répond pas
49	Chute alimentation 5V FI PIP
54	IV100 (VSP9407) ne répond pas
55	IR006 (PCF8574) ne répond pas
56	Problème bit FLS IV400 (TDA9330)
58	Mauvaise validation de Code erreur
59	Mauvais IR001 monté
61	5V n'apparaît pas au départ
62	5V et 8V absents
63	Niveau incorrect sur la ligne NMI
64	Surtension détectée
65	Problème écriture NVM
66	Contenu NVM corrompu
68	5V commuté disparaît.
69	Synch. H/V (OSD) absente
72	IX400 (CXA2151) ne répond pas
93	IR001 : Problème d'installation des drivers des bus I2C1 et I2C2
94	IR001 : Problème d'installation des drivers des bus I2C3 et I2C4
95	IR001 : Problème d'installation des ports ou des drivers I2C
96	IR001 : Problème d'installation des drivers ADC
97	IR001 : Problème d'installation du driver AV-link
98	Problème du timing SDRAM (IR110)
99	IR001 Watchdog actif

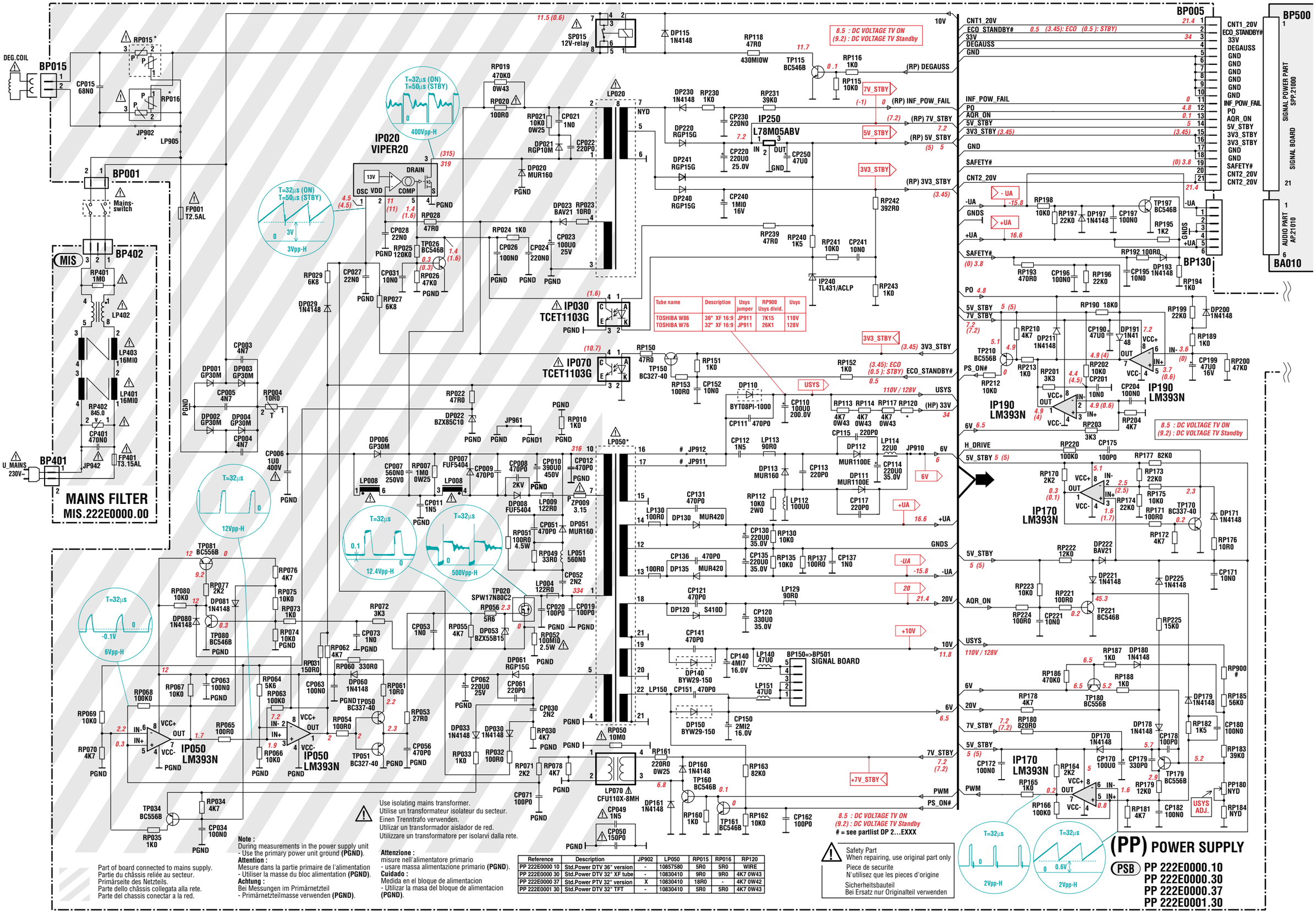
DE

11	I2C Bus_1 Data ist immer L
122C	Bus_1 Clock ist immer L
13/95	I2C Bus_2 Data ist immer L
14/95	I2C Bus_2 Clock ist immer L
15	I2C Bus_3 Data ist immer L
16	I2C Bus_3 Clock ist immer L
17	I2C Bus_4 Data ist immer L
18	I2C Bus_4 Clock ist immer L
19	Falsche Chassisvariante
25	Haupttuner/ZF Tunerteil antwortet nicht
26	Zweiter (PIP-)Tuner Tunerteil antwortet nicht
27	IX300 (TEA6415C) antwortet nicht
28	IV300 (TA1360) antwortet nicht
29	Power Down Detection IV300 (9V zu geringe Betriebsspannung)
31	IV400 (TDA9339H) antwortet nicht
32	Power Down Detection IV400 (8V zu geringe Betriebsspannung
33	BV500 nicht verbunden
34	NHF Flag IV400 (TDA9330H) Pin 13 PHI2_REF fehlt
35	NRF Flag IV400 (TDA9330H) Referenz-PLL (Clock) nicht eingerastet
36	Bildrohr ist nicht rechtzeitig aufgeheizt (Signal Icut nicht korrekt)
37	NDF Flag IV400 (TDA9330H) Pin 9 V_GUARD fehlt oder dauert zu lange
38	XPR Flag IV400 (TDA9330H) Überspannungsschutz Hochspannung hat ausgelöst
39	PH1 Flag IV400 (TDA9330H) Referenz-PLL (Clock) nicht rechtzeitig eingerastet
41	IA001 Audio-MSP antwortet nicht
42	IA001 Audio-MSP Reset-Bit ist aktiv
45	Falscher MSP-Typ eingesetzt
46	Haupttuner/ZF ZF-Teil antwortet nicht
47	Power Down Detection ZF-Teil Haupttuner/ZF (5V zu geringe Betriebsspannung)
48	Zweiter (PIP-)Tuner ZF-Teil antwortet nicht
49	Power Down Detection ZF-Teil PIP-Tuner/ZF (5V zu geringe Betriebsspannung)
54	IV100 (VSP9407) antwortet nicht
55	IR006 (PCF8574, Portexpander) antwortet nicht
56	FLS Flag IV400 (TDA9330H) Pin 5 ('FLASH')
58	Event-Code konnte nicht bestätigt werden
59	Falsche Version des Microcontrollers IR001
61	Geschaltete 5VON nicht vorhanden
62	5V und 8V nicht vorhanden
63	Unerwarteter Pegel auf POWER_FAIL (NMI-Leitung: z.B. Überschlag im Bildrohr oder zu niedrige Netzspannung)
64	XRP-Abgleich detektierte Überspannung (nur US-Versionen)
65	Schreiben in den XRP-NVM schlug fehl (nur US-Versionen)
66	Daten im XRP-NVM sind defekt (nur US-Versionen)
68	Geschaltete 5V nicht vorhanden (während POWER_SAFETY aktiv (=L) ist)
69	H/V-Synch für OSD fehlen
72	IX400 (CXA2151, Eingangsschalter AV4) antwortet nicht
93	Soft.problem: IR001 konnte Bustreiber für I2C-Bus_1 und II2C-Bus_2 nicht korrekt installieren
94	Soft.problem: IR001 konnte Bustreiber für I2C-Bus_3 und II2C-Bus_4 nicht korrekt installieren
95	Software problem: IR001 konnte Porttreiber für I2C-Busse nicht korrekt installieren
96	Software problem: IR001 konnte Treiber für den ADC nicht korrekt installieren
97	Software problem: IR001 konnte AV-Linktreiber nicht korrekt installieren
98	Software problem: IR001 konnte SDRAM-Timing nicht korrekt installieren
99	Watchdog-Timer im IR001 hat ausgelöst

ES

11	Línea Data I2C bus_1 forzada a nivel bajo
12	Línea Clock I2C bus_1 forzada a nivel bajo
13/95	Línea Data I2C bus_2 forzada a nivel bajo
14/95	Línea Clock I2C bus_2 forzada a nivel bajo
15	Línea Data I2C bus_3 forzada a nivel bajo
16	Línea Clock I2C bus_3 forzada a nivel bajo
17	Línea Data I2C bus_4 forzada a nivel bajo
18	Línea Clock I2C bus_4 forzada a nivel bajo
19	Detectado chasis inválido
25	El sintonizador principal no responde
26	El sintonizador secundario (PIP) no responde
27	IX300 (TEA6415C) no responde
28	IV300 (TA1360) no responde
29	Faltan los 9V de IV300
31	IV400 (TDA9330H) no responde
32	Faltan los 8V de IV400
33	BV500 no conectado
34	PHI2_REF no disponible
35	Problema en el bit NRF, IV400 TDA9330 (HOP) oscilador no bloqueado
36	TRC no caliente en el tiempo establecido
37	Falta V_GUARD
38	XPR Bit. IV400 (TDA9 3OH),seguridad de rayos X activada
39	Problema en PH1, IV400 TDA.9330 (HOP) oscilador no bloqueado a tiempo
41	IA001 (MSP) no responde
42	El bit del reset de IA001 (MSP) está activo
45	MSP averiado
46	La FI principal no responde
47	Faltan los 5V de FI
48	La FI del PIP no responde
49	Faltan los 5V de la FI PIP
54	IV100 (VSP9407) no responde
55	IR006 (PCF8574) no responde
56	Problema en el bit FLS IV400 (TDA9330)
58	Código de validación fallido
59	IR001 montado, mal o incorrecto
61	Faltan los 5VON
62	Faltan los 5V y los 8V
63	Nivel inesperado en la línea NMI
64	Sobretensión en el ajuste XRP (rayos X)
65	La escritura a la NVM ha fallado
66	El contenido de la NVM está corrupto
68	Faltan los 5V conmutados
69	Faltan los sincronismos H/V para el OSD
72	IX400 (CXA2151) no responde
93	IR001, Err_I2C Bus_1 y Err_I2C Bus_2 (Bus drivers)
94	IR001, Err_I2C Bus_3 y Err_I2C Bus_4 (Bus drivers)
95	IR001, Err_I2C, Puerto del driver no se puede instalar
96	IR001, driver para ADC no se puede instalar
97	IR001, driver para AV-link no se puede instalar
98	SDRAM (IR110) problemas con el timing
99	IR001 alcanzado Watchdog

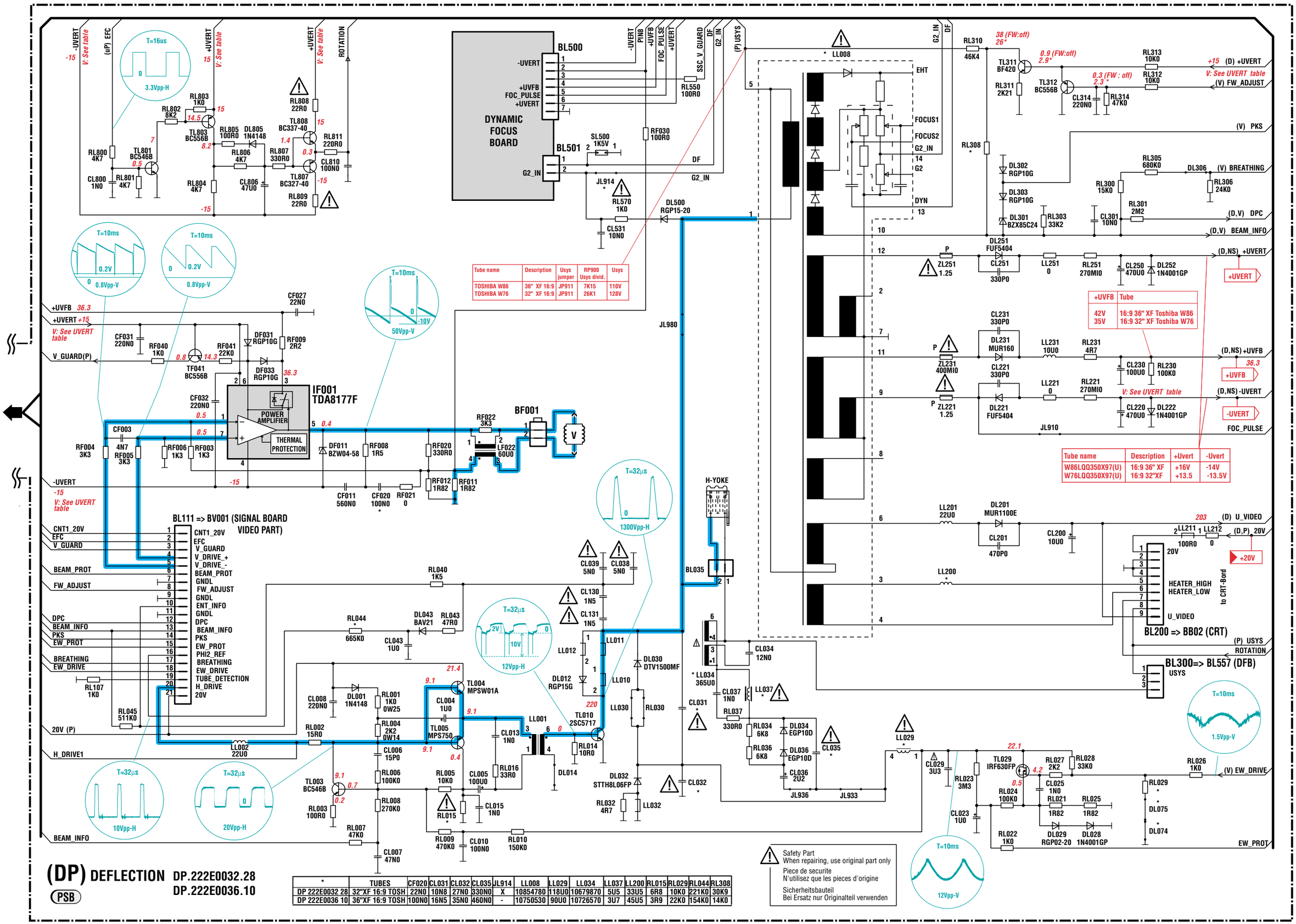
POWER / SCAN BOARD - PLATINE ALIMENTATION / BALAYAGE - NETZTEIL- UND ABLENKPLATINE - PIASTRA DEFLESSIONE / ALIMENTAZIONE - PLACA ALIMENTACIÓN / BARRIDOS
POWER SUPPLY PART - PARTIE ALIMENTATION - NETZTEIL - ALIMENTAZIONE - ALIMENTACIÓN



Tube name	Description	Usys jumper	RP900 Usys divid.	Usys
TOSHIBA W86	36" XF 16:9	JP911	7K15	110V
TOSHIBA W76	32" XF 16:9	JP911	26K1	128V

Reference	Description	JP902	LP050	RP015	RP016	RP120
PP 222E0000 10	Std.Power DTV 36" version	-	10857580	5R0	5R0	WIRE
PP 222E0000 30	Std.Power DTV 32" XF tube	-	10830410	9R0	9R0	4K7 0W43
PP 222E0000 37	Std.Power DTV 32" version	X	10830410	18R0	-	4K7 0W42
PP 222E0001 30	Std.Power DTV 32" TFT	-	10830410	5R0	5R0	4K7 0W43

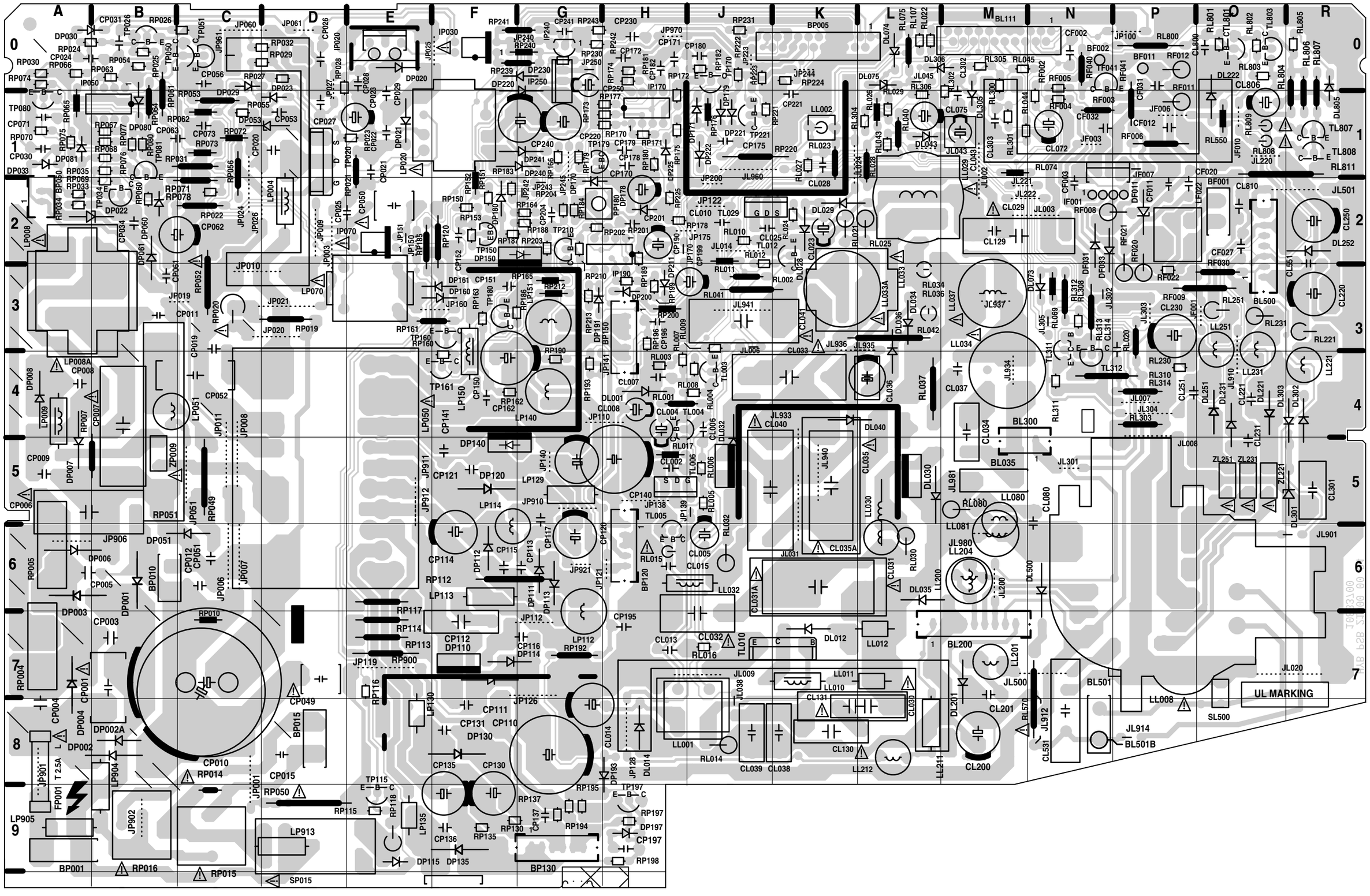
POWER / SCAN BOARD - PLATINE ALIMENTATION / BALAYAGE - NETZTEIL- UND ABLENKPLATINE - PIASTRA DEFLESSIONE / ALIMENTAZIONE - PLACA ALIMENTACIÓN / BARRIDOS
SCANNING - BALAYAGE - ABLENKUNG - BARRIDO - SCANSIONE



*	TUBES	CF020	CL031	CL032	CL035	JL914	LL008	LL029	LL034	LL037	LL200	RL015	RL029	RL044	RL308
DP 222E0032 28	32"XF 16:9 TOSH	22N0	10N8	27N0	330N0	X	10854780	118U0	10679870	5U5	33U5	6R8	10K0	221K0	30K9
DP 222E0036 10	36"XF 16:9 TOSH	100N0	16N5	35N0	460N0	-	10750530	90U0	10726570	3U7	45U5	3R9	22K0	154K0	14K0

POWER / SCAN BOARD - PLATINE ALIMENTATION / BALAYAGE - NETZTEIL- UND ABLENKPLATINE - PIASTRA DEFLESSIONE / ALIMENTAZIONE - PLACA ALIMENTACIÓN / BARRIDOS

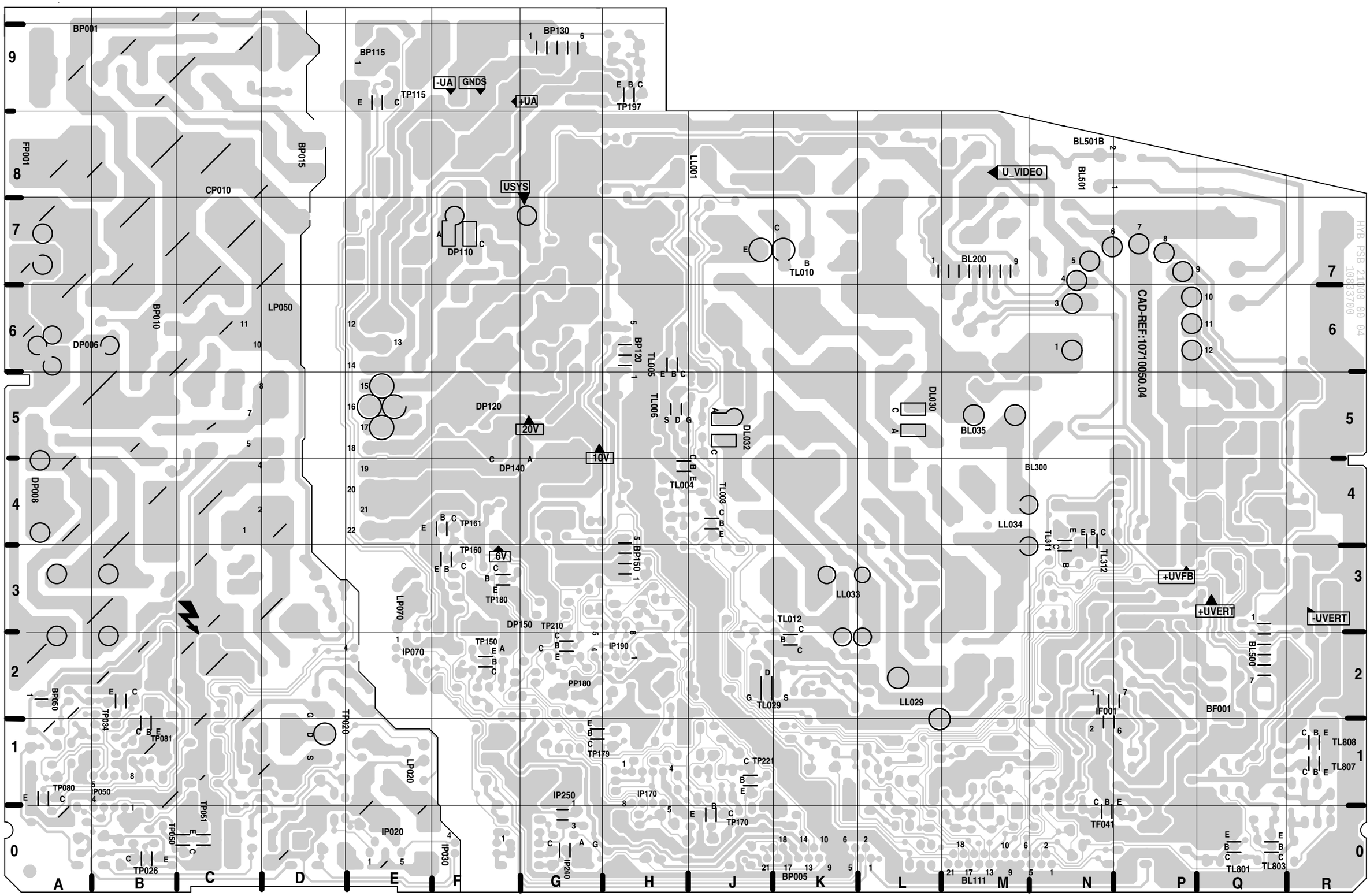
COMPONENT SIDE - COTE COMPOSANTS - BESTÜCKUNGSSEITE - LATO COMPONENTI - LADO COMPONENTES



ITC222
First issue 10 / 03

POWER / SCAN BOARD - PLATINE ALIMENTATION / BALAYAGE - NETZTEIL- UND ABLENKPLATINE - PIASTRA DEFLESSIONE / ALIMENTAZIONE - PLACA ALIMENTACIÓN / BARRIDOS

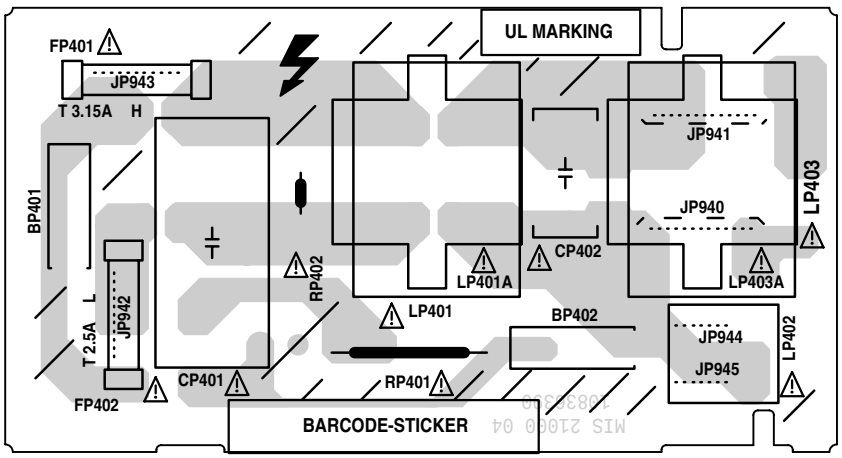
SOLDER SIDE - CÔTE SOUDURES - LÖTSEITE - LATO SALDATURE - LADO SOLDADURAS



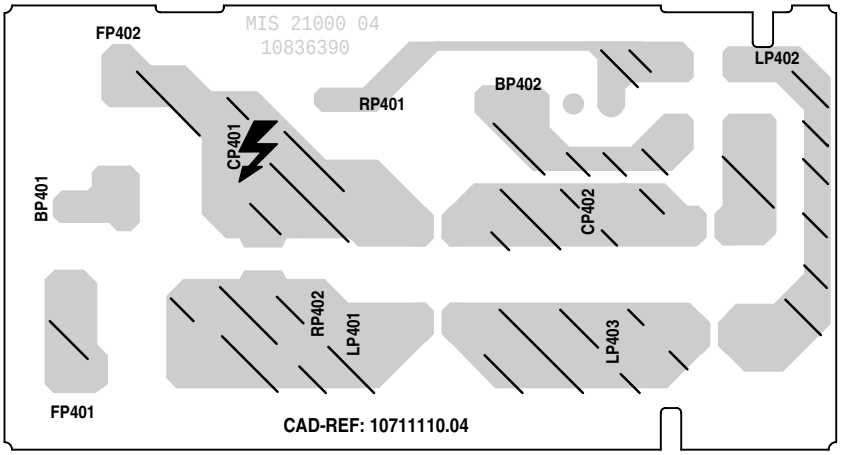
ITC222
First issue 10/ 03

MAINS FILTER - FILTRE SECTEUR
MIS222E0000

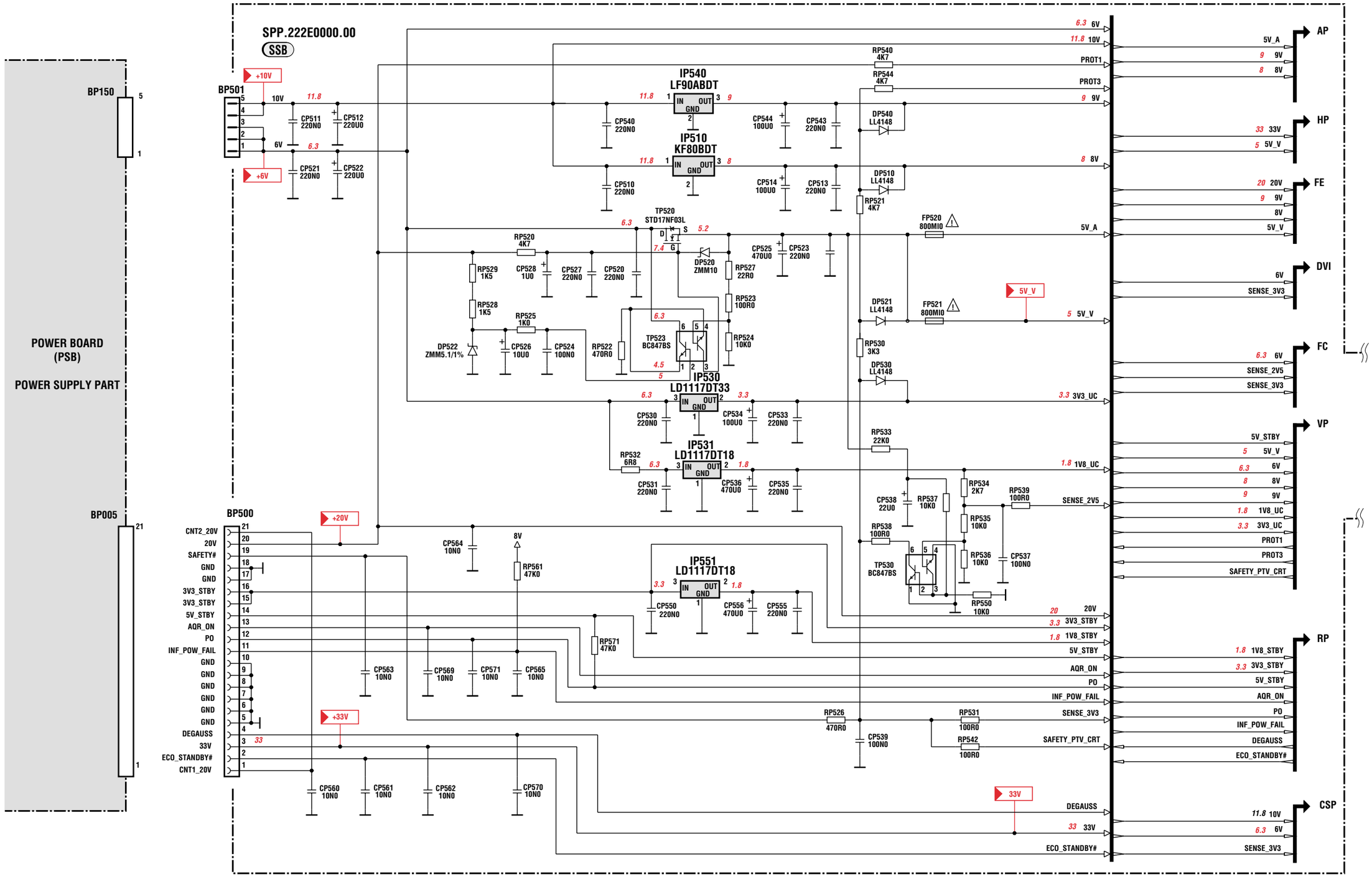
COMPONENT SIDE - COTE COMPOSANTS - BESTÜCKUNGSSEITE -
LATO COMPONENTI - LADO COMPONENTES



SOLDER SIDE - CÔTE SOUDURES - LÖTSEITE - LATO SALDATURE - LADO SOLDADURAS

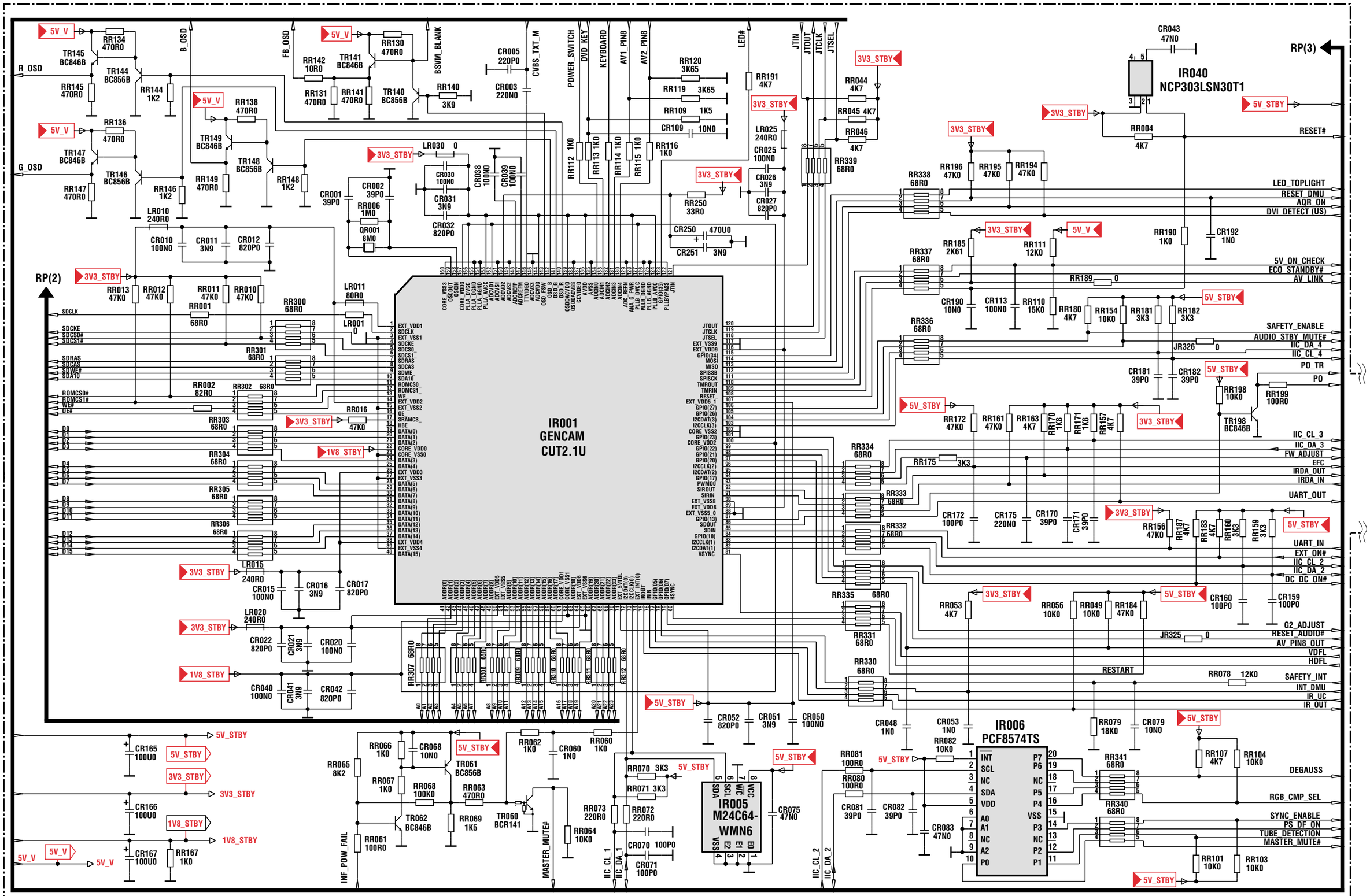


SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
SIGNAL BOARD POWER PART - PARTIE ALIMENTATION DE LA PLATINE PETITES SIGNAUX - BETRIEBSSPANNUNGSERZEUGUNG SIGNAL PLATINE - PARTE ALIMENTAZIOEN PIASTRA SEGNALI - PARTE ALIMENTACIÓN PLACA SEÑAL



ITC222
First issue 11 / 03

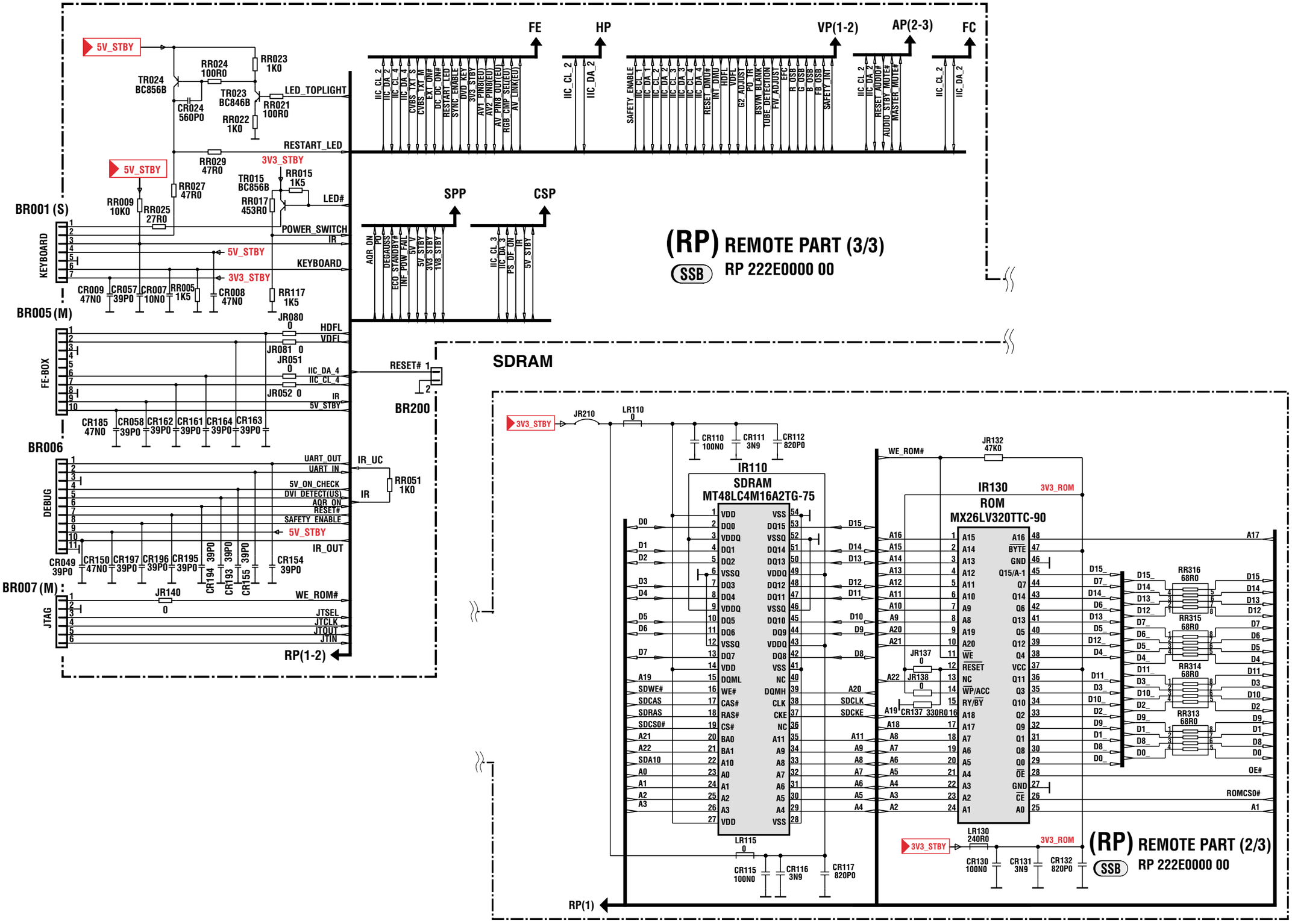
SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
REMOTE / MICROCONTROLLER - GESTION / MICROCONTROLEUR - FERNBEDIENUNGS- UND MICROCONTROLLERSTUFEN - MICROPROCESSORE - REMOTO / MICROCONTROLADOR



(RP) REMOTE PART (1/3)

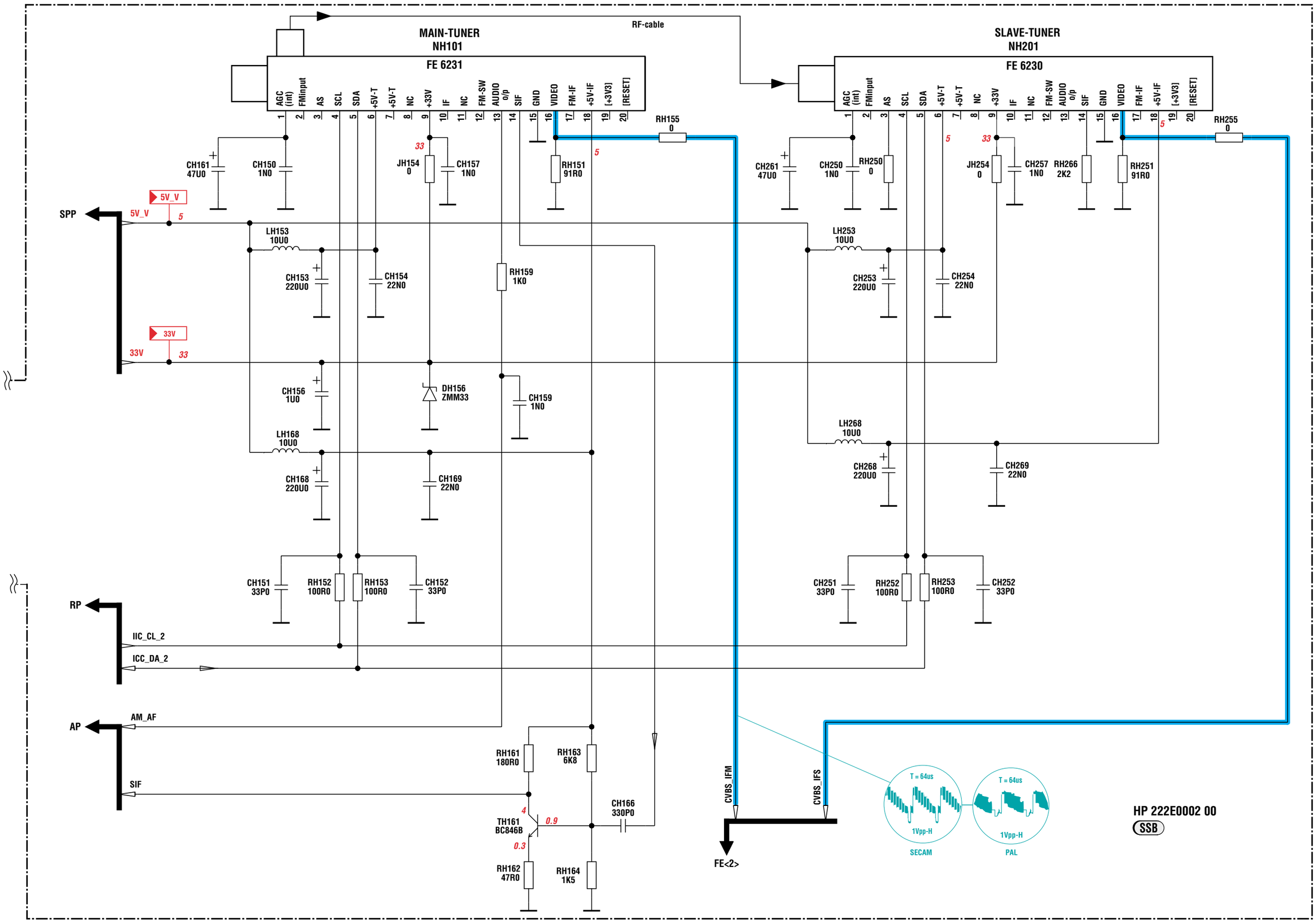
SSB RP 222E0000 00

ITC222
First issue 11 / 03



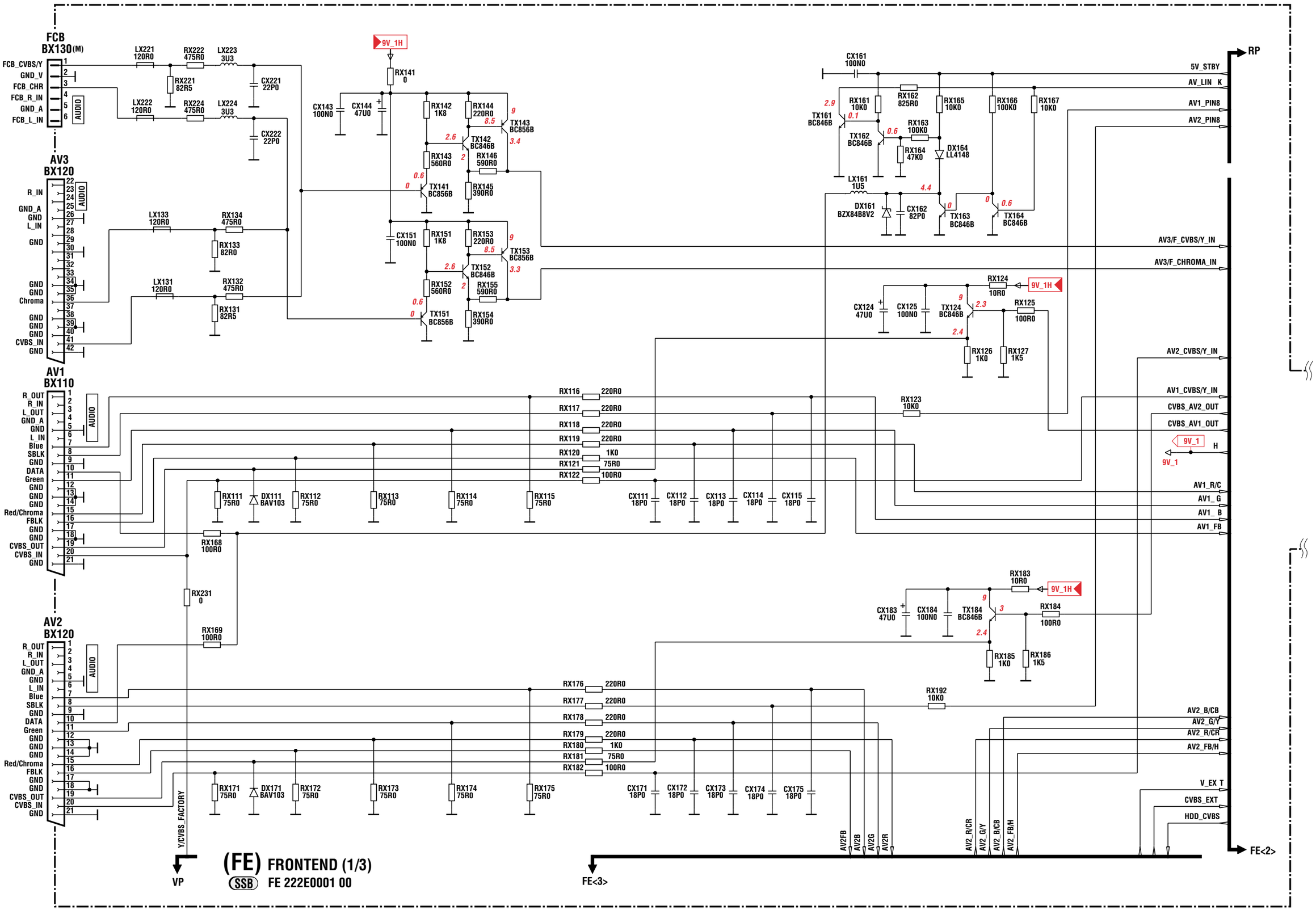
ITC222
First issue 11 / 03

SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
HF PART TUNER



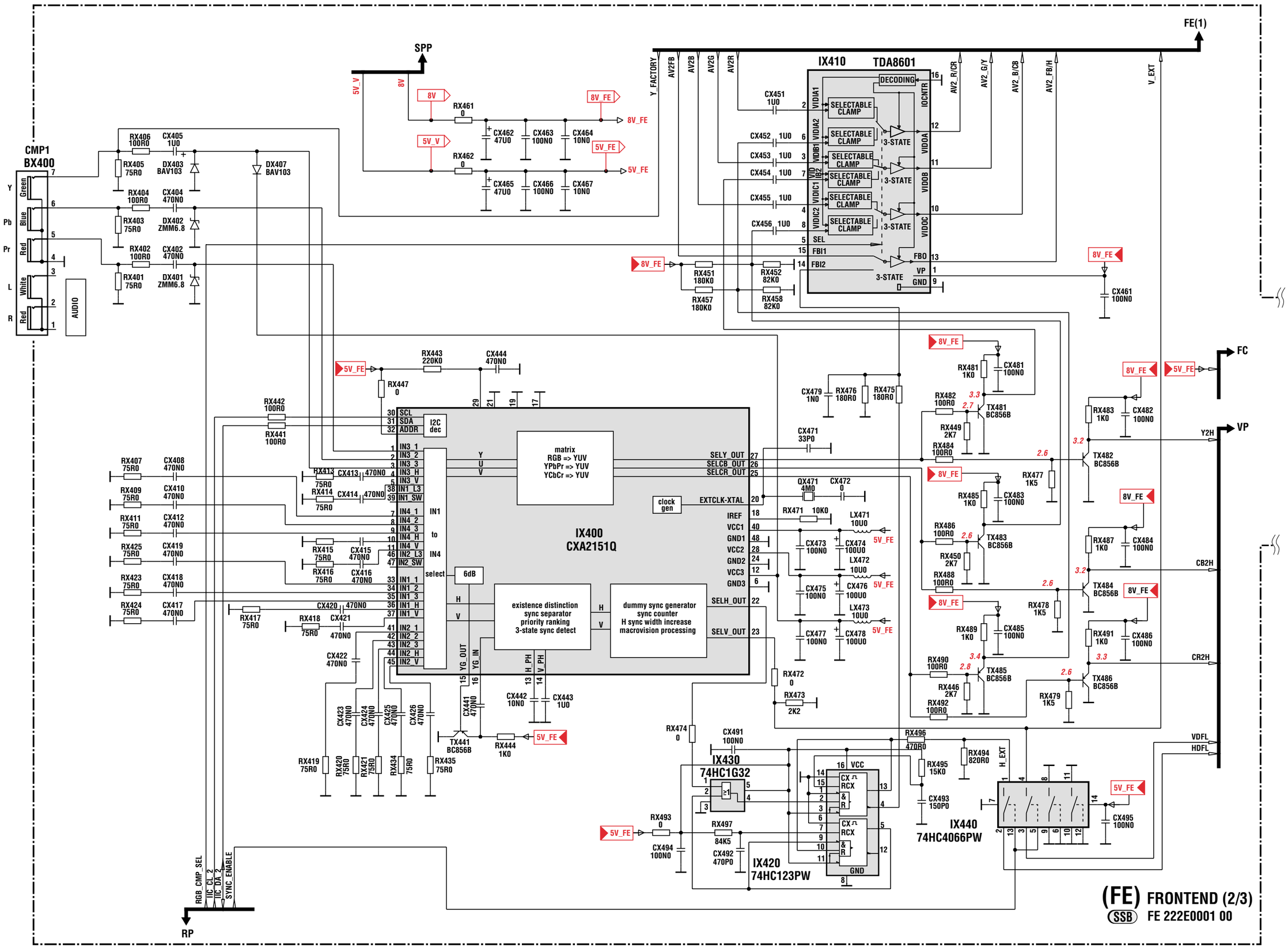
ITC222
First issue 11 / 03

SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
FRONTEND PART (1/3) - PARTIE SIGNAUX D'ENTREE (1/3) - EINGANGSSTUFEN (1/3) - PRESE FRONTALI (1/3) - FRONT END PART (1/3)

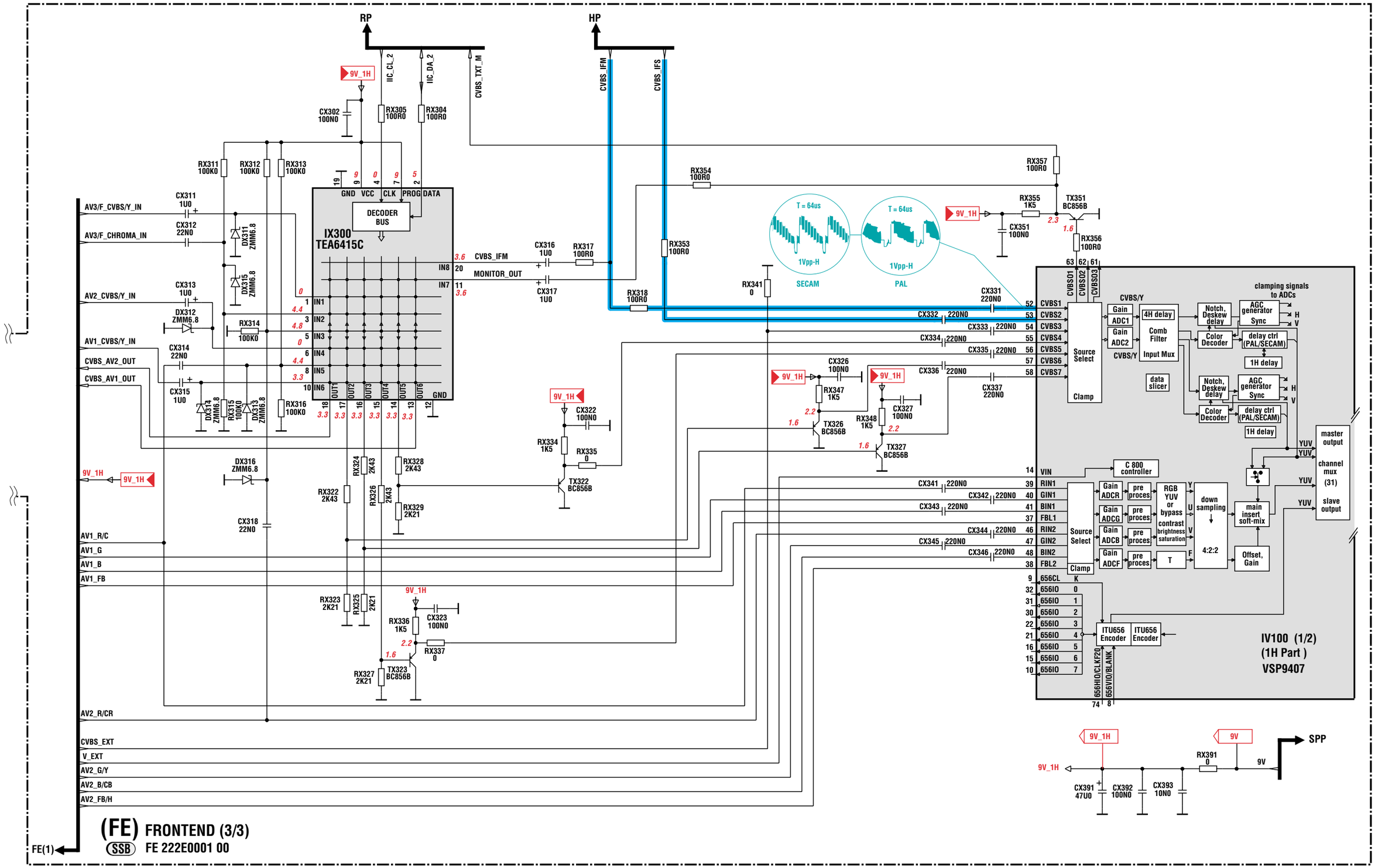


ITC222
First issue 11 / 03

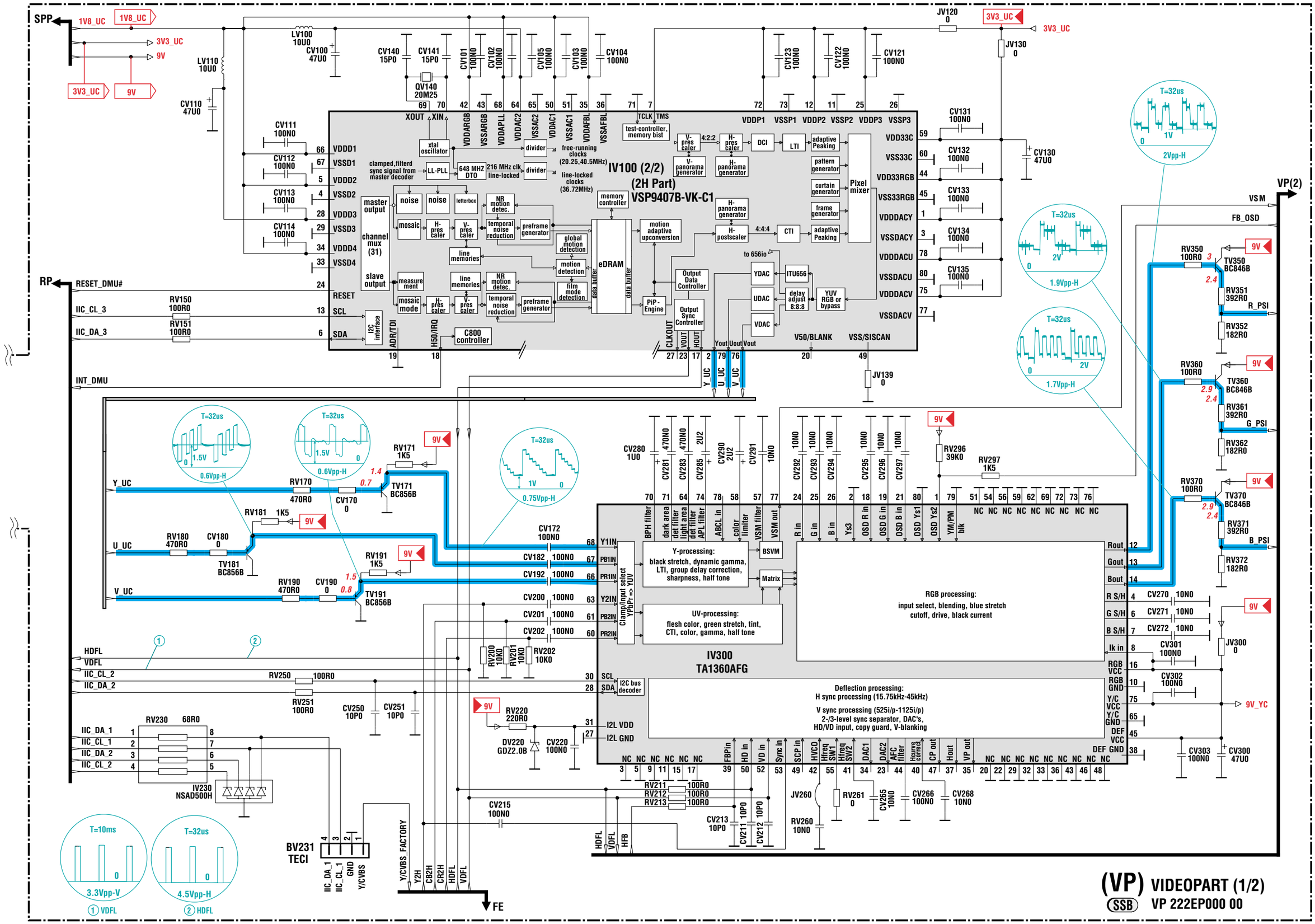
SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
FRONTEND PART (2/3) - PARTIE SIGNAUX D'ENTREE (2/3) - EINGANGSSTUFEN (2/3) - PRESE FRONTALI (2/3) - FRONT END PART (2/3)



SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
FRONTEND PART (3/3) - PARTIE SIGNAUX D'ENTREE (3/3) - EINGANGSSTUFEN (3/3) - PRESE FRONTALI (3/3) - FRONT END PART (3/3)

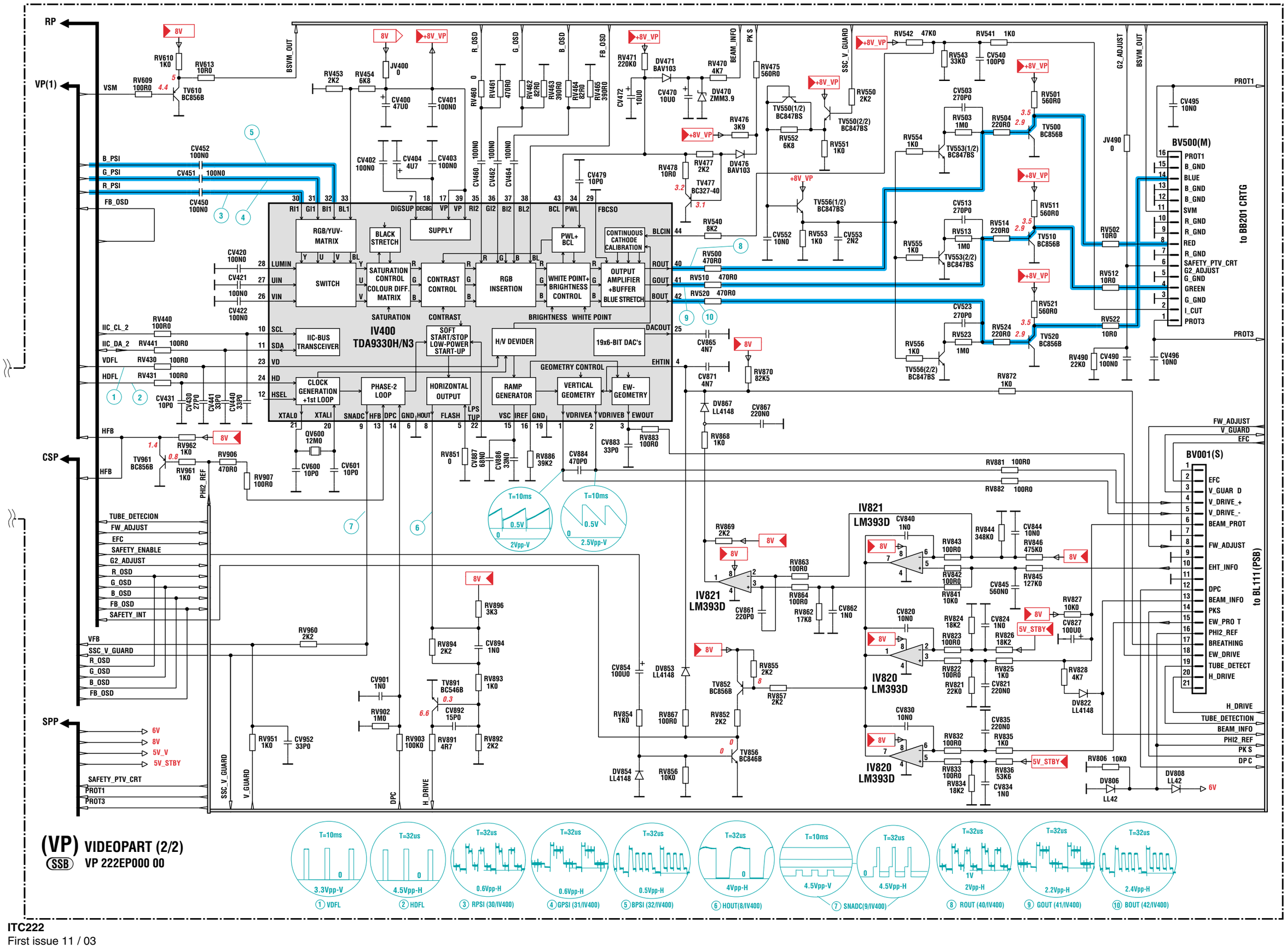


SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
VIDEO PART (1/2) - PARTIE VIDEO (1/2) - VIDEO-SIGNALVERARBEITUNG (1/2) - ELABORAZIONE VIDEO (1/2) - TRATAMENTO VIDEO (1/2)



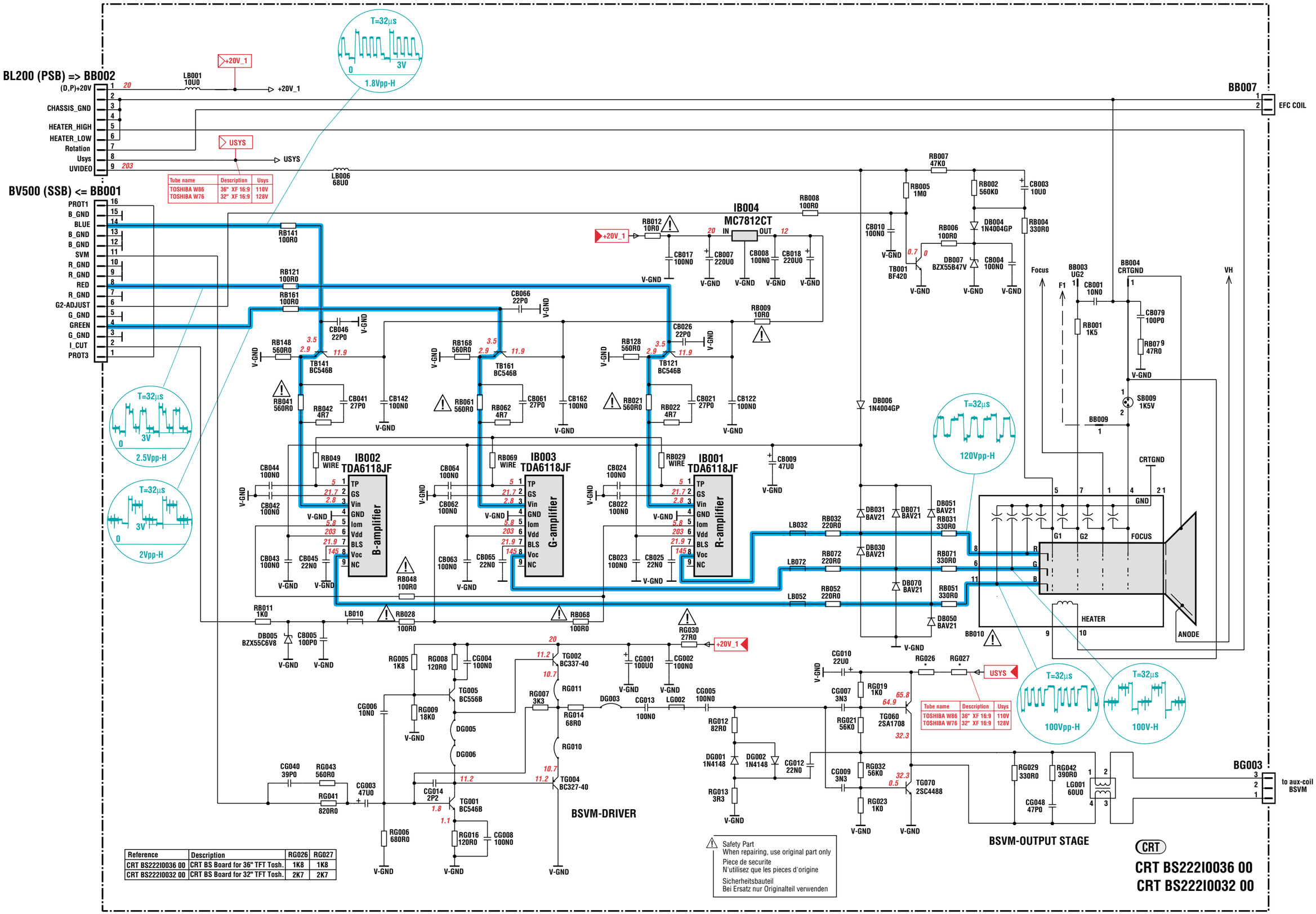
ITC222
First issue 11 / 03

SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
VIDEO PART (2/2) - PARTIE VIDEO (2/2) - VIDEO-SIGNALVERARBEITUNG (2/2) - ELABORAZIONE VIDEO (2/2) - TRATAMENTO VIDEO (2/2)

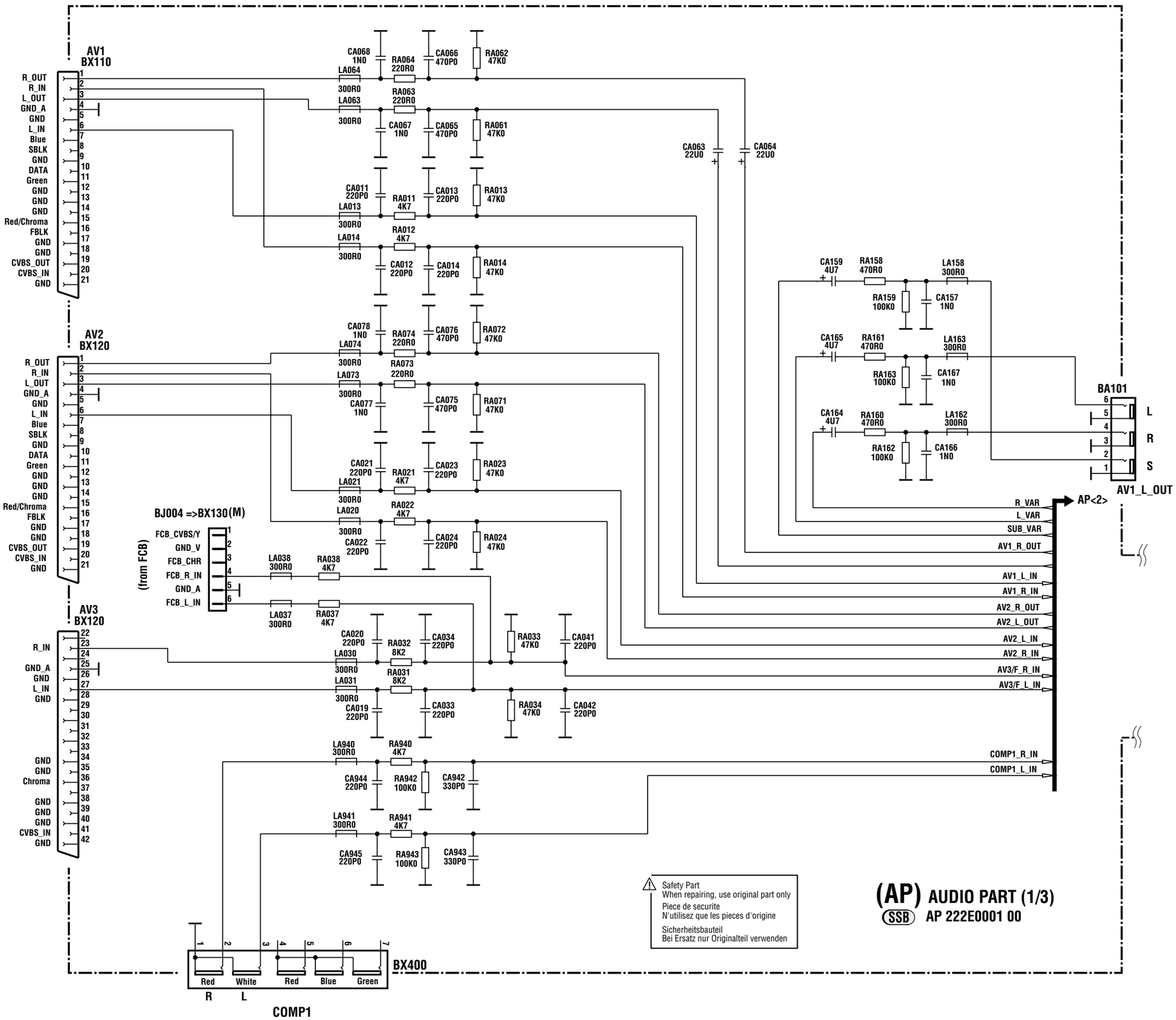


ITC222
First issue 11 / 03

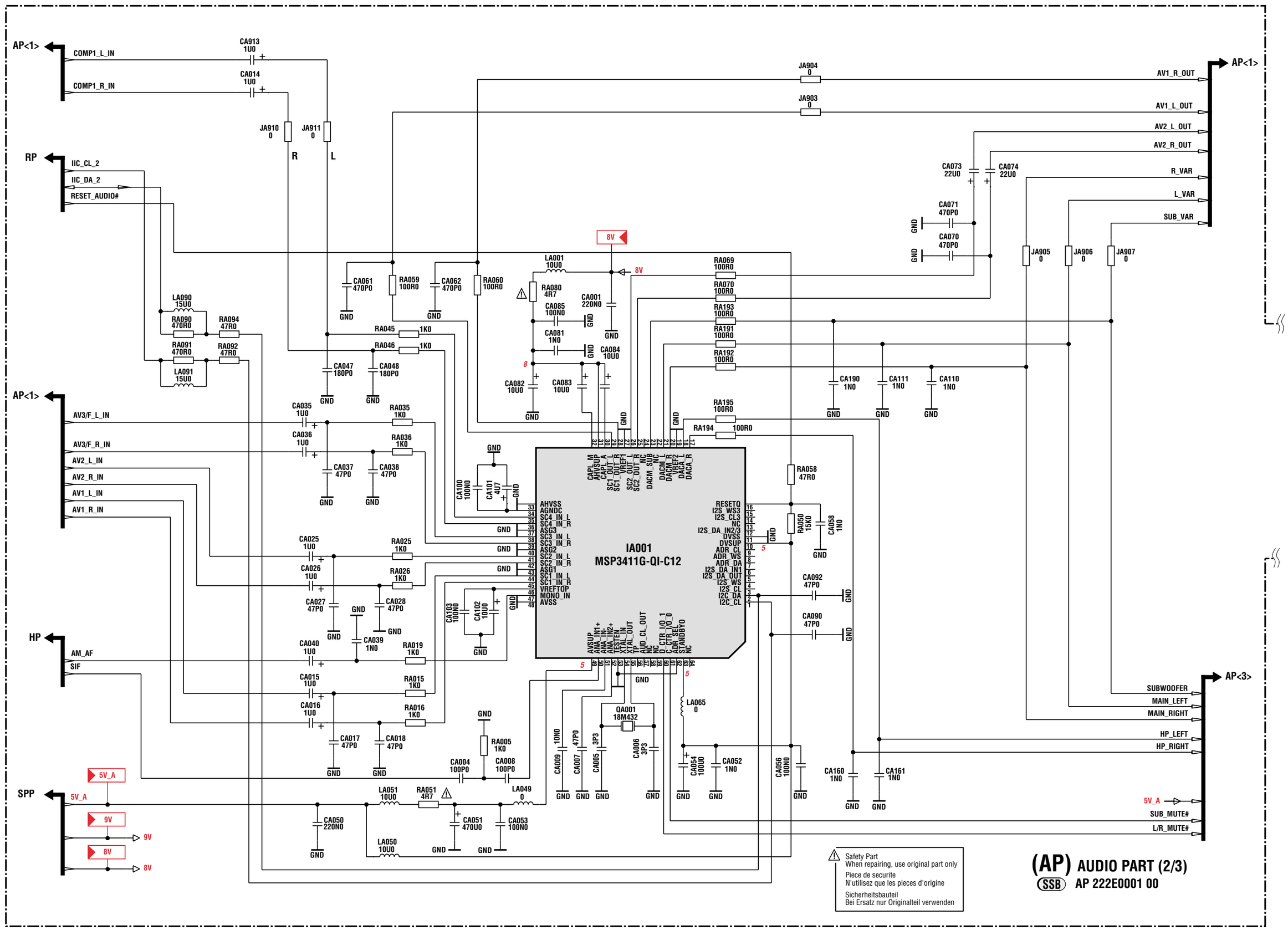
VIDEO AMPLIFIER BOARD - PLATINE AMPLIFICATEURS VIDEO - VIDEOVERSTÄRKERPLATTE - PIASTRA AMPLIFICATORE VIDEO - PLATINA AMPLIFICADOR VIDEO



SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
AUDIO PART (1/3) - PARTIE AUDIO (1/3) - AUDIOSTUFEN (1/3) - CIRCUITO AUDIO (1/3) - AUDIO (1/3)

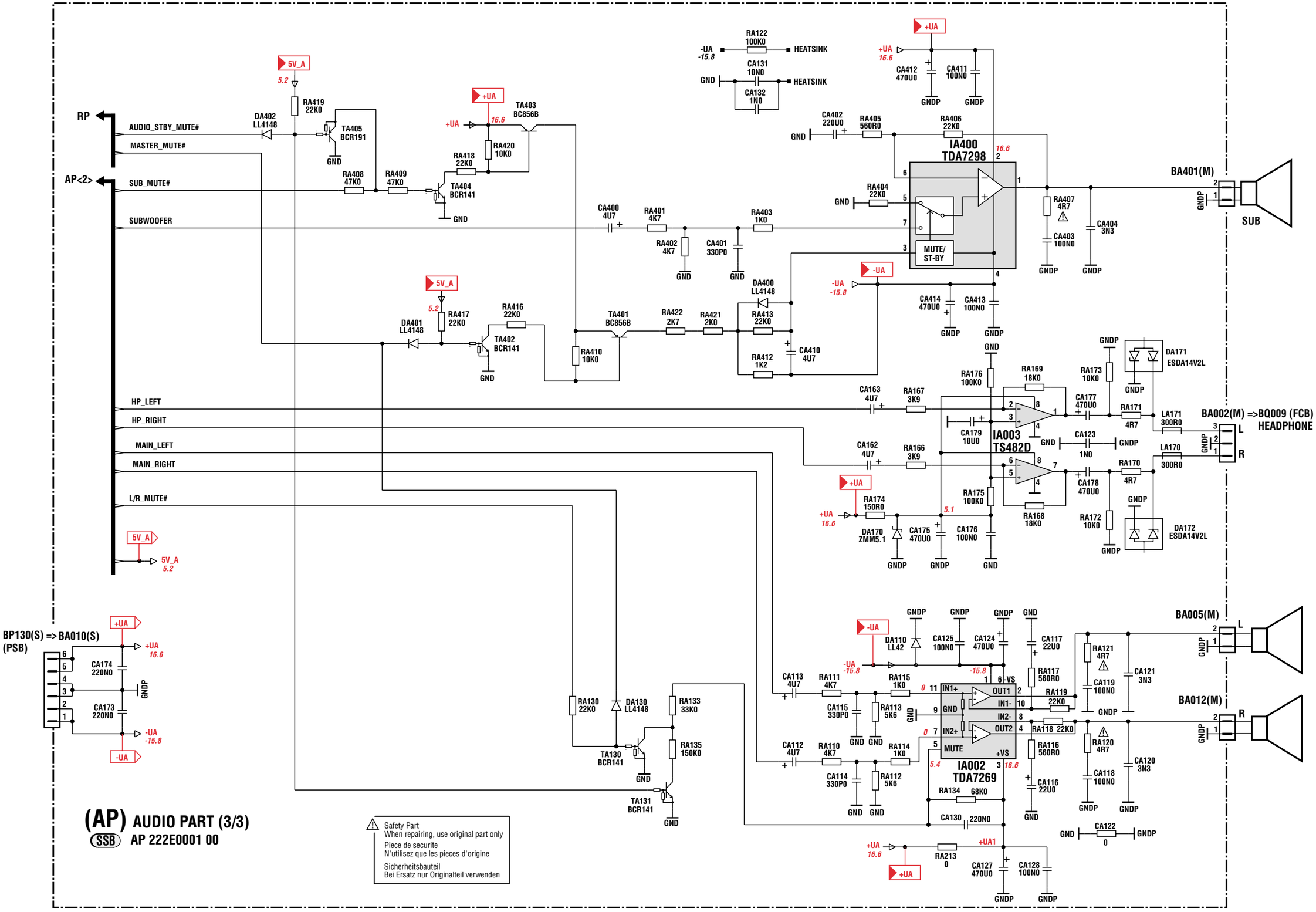


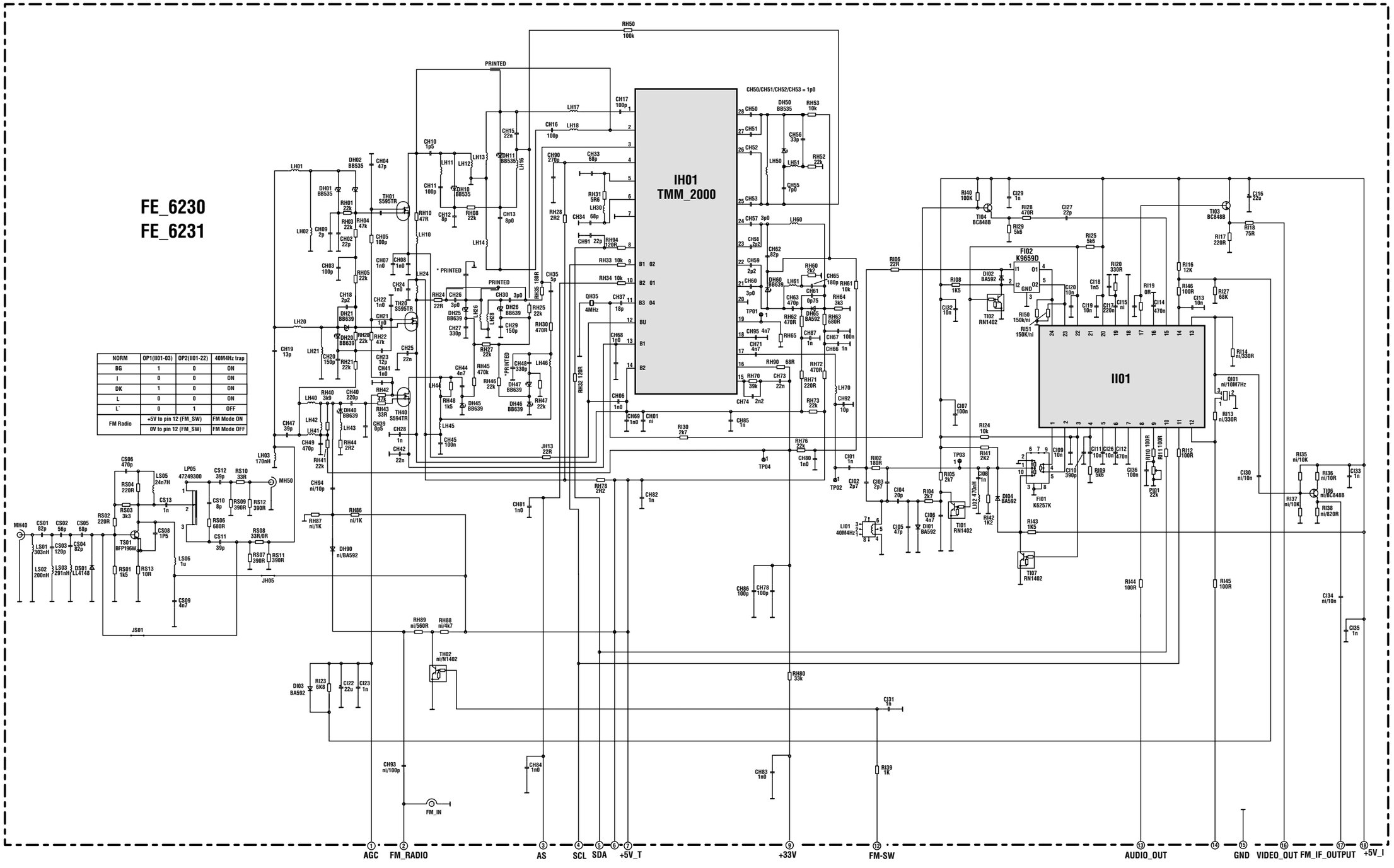
SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
AUDIO PART (2/3) - PARTIE AUDIO (2/3) - AUDIOSTUFEN (2/3) - CIRCUITO AUDIO (2/3) - AUDIO (2/3)



ITC222
First issue 11 / 03

SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL
AUDIO PART (3/3) - PARTIE AUDIO (3/3) - AUDIOSTUFEN (3/3) - CIRCUITO AUDIO (3/3) - AUDIO (3/3)

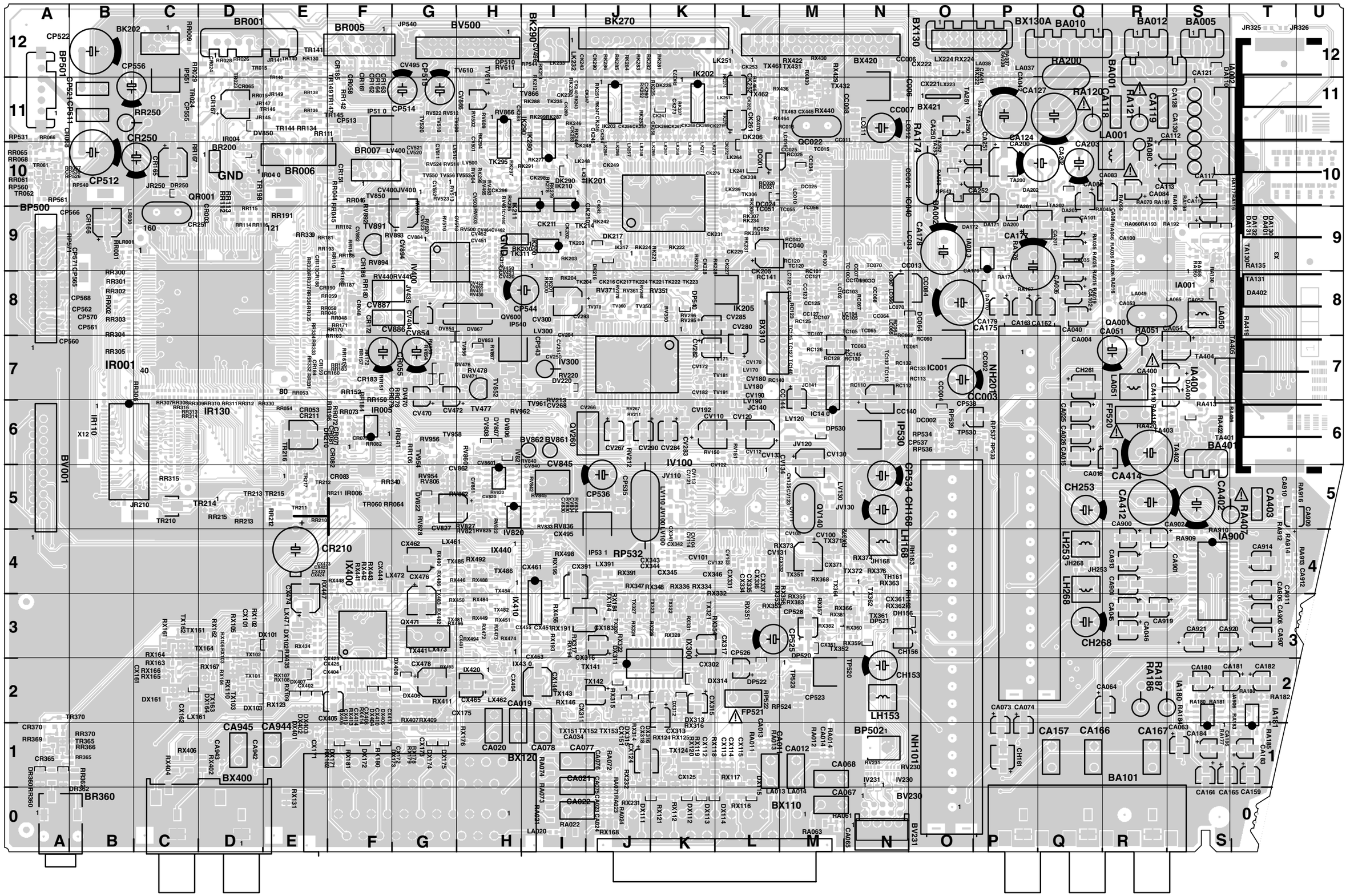




NORM	OP1(II01-03)	OP2(II01-22)	40M4Hz trap
BG	1	0	ON
I	0	0	ON
DK	1	0	ON
L	0	0	ON
L`	0	1	OFF
FM Radio	+5V to pin 12 (FM_SW)		FM Mode ON
	0V to pin 12 (FM_SW)		FM Mode OFF

SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL

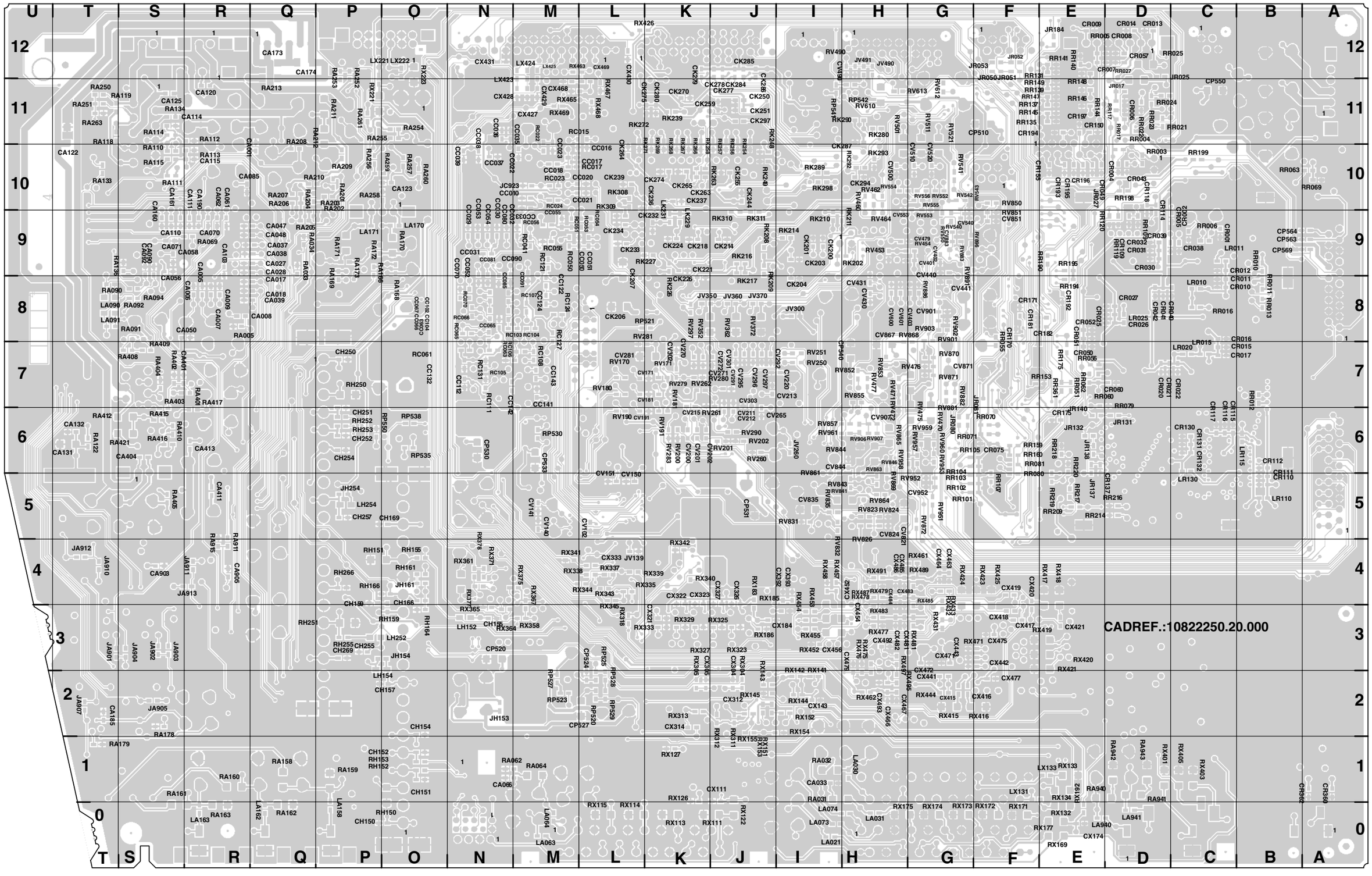
COMPONENT SIDE - COTE COMPOSANTS - BESTÜCKUNGSSEITE - LATO COMPONENTI - LADO COMPONENTES



ITC222
First issue 11 / 03

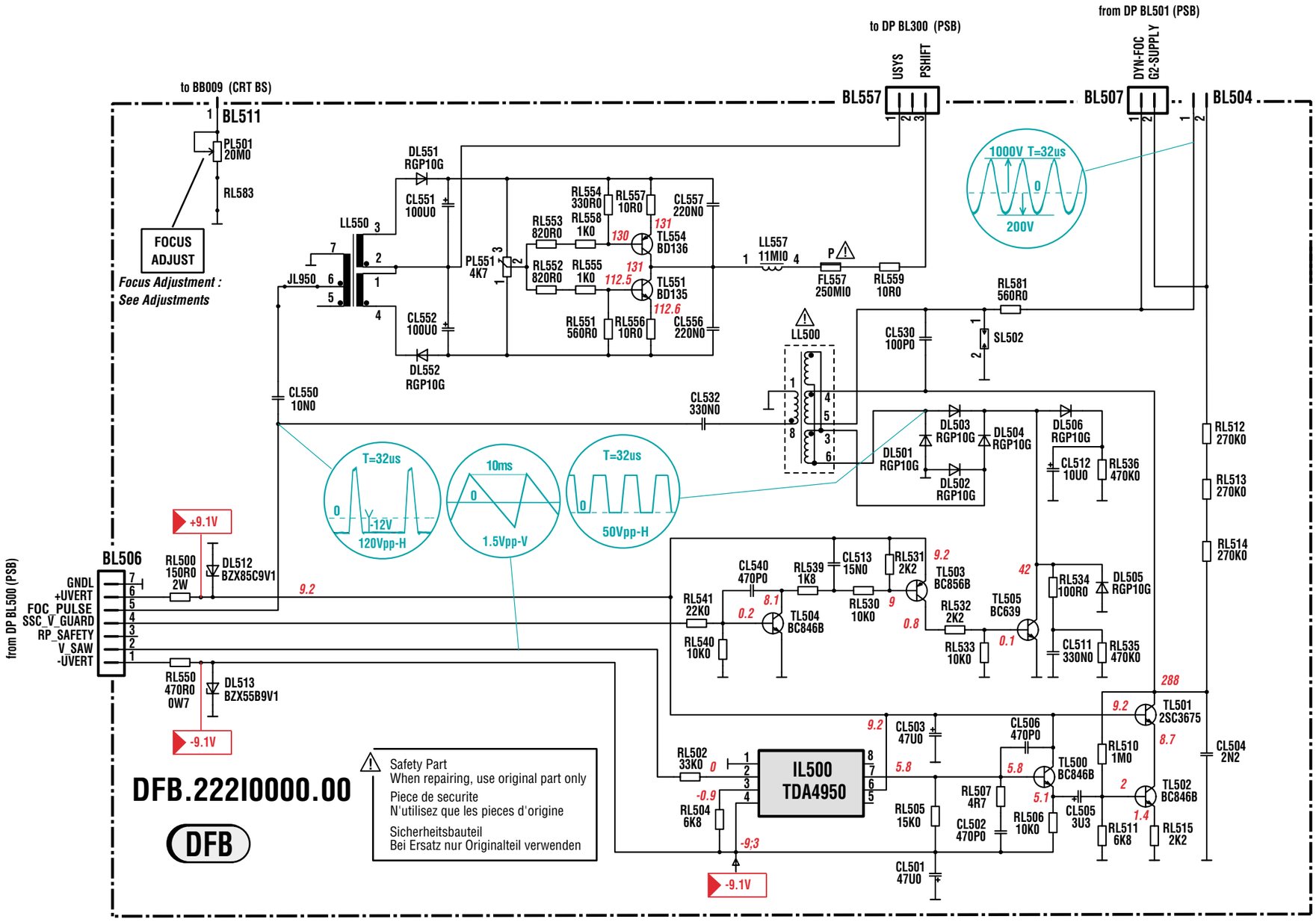
SMALL SIGNAL BOARD - PLATINE PETITS SIGNAUX - SIGNAL-PLATINE - PIASTRA PICCOLI SEGNALI - PLACA PEQUEÑA SEÑAL

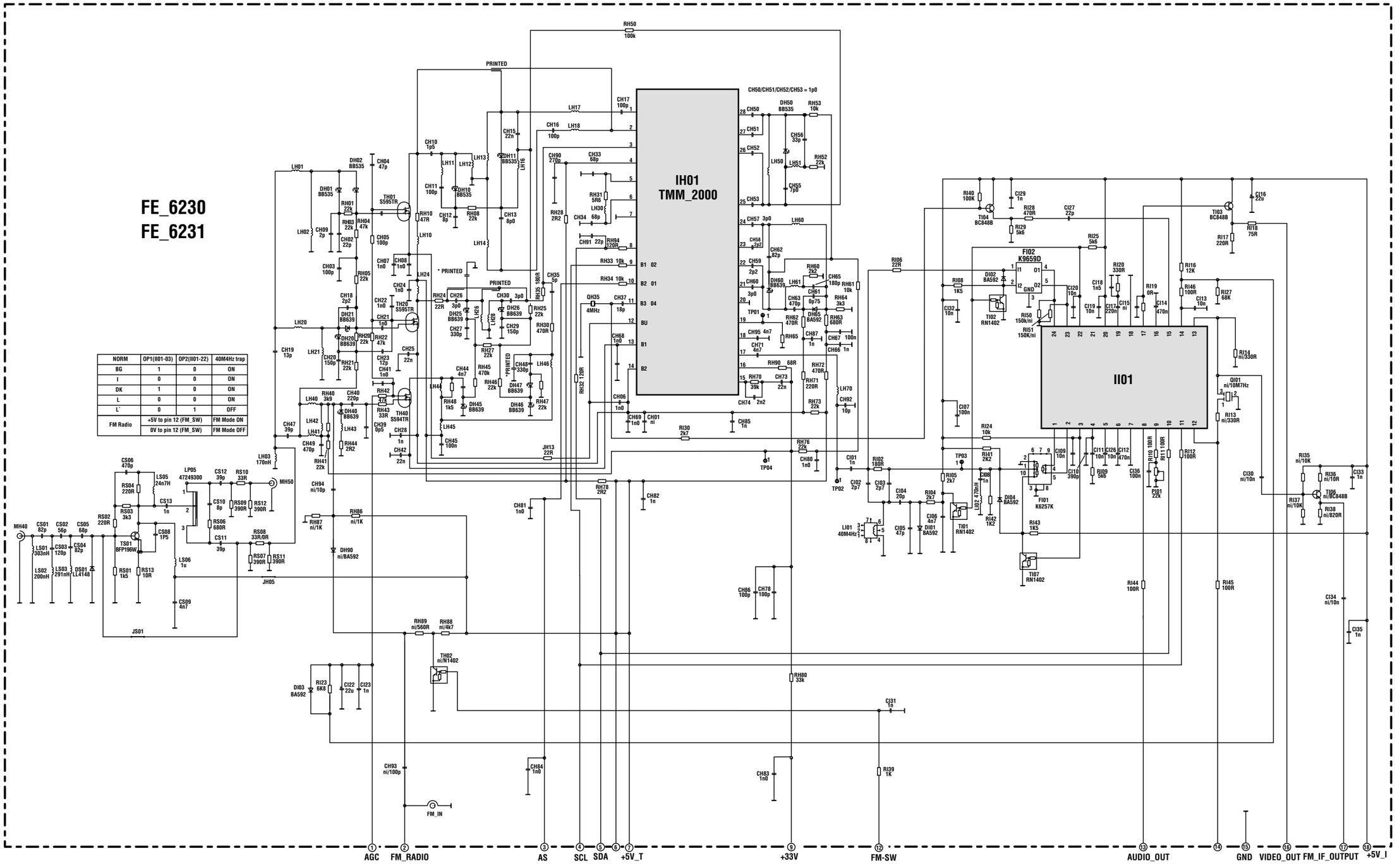
SOLDER SIDE - CÔTE SOUDURES - LÖTSEITE - LATO SALDATURE - LADO SOLDADURAS



ITC222
First issue 11 / 03

DYNAMIC FOCUS MODULE - MODULE FOCUS DYNAMIQUE - DYNAMIKFOKUS BAUSTEIN - MODULO FUOCO DINAMICO - MÓDULO FOCO DINÁMICO

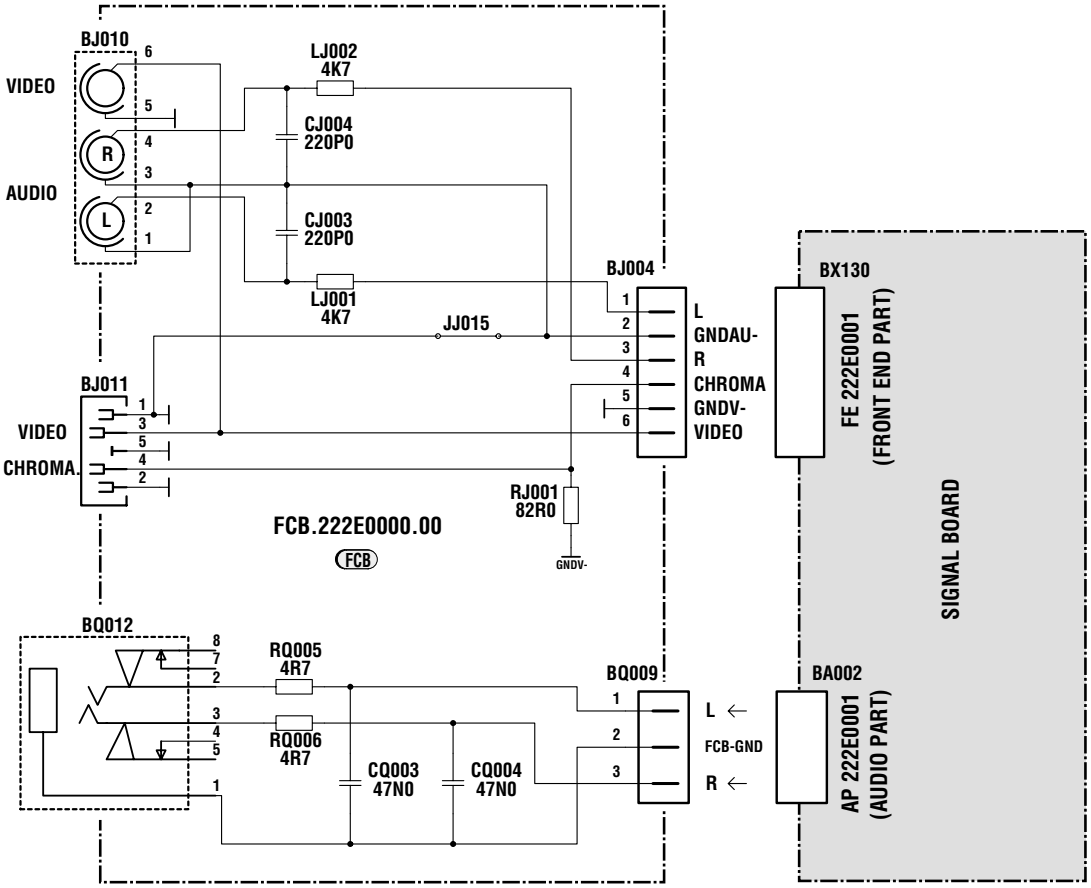


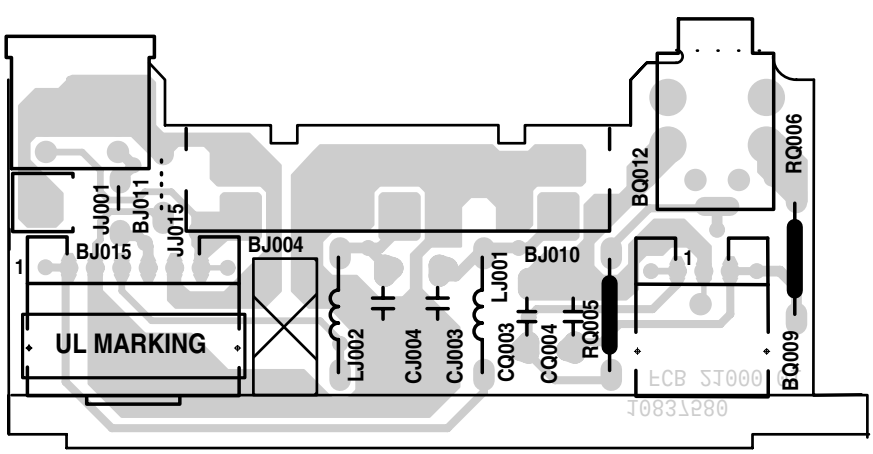


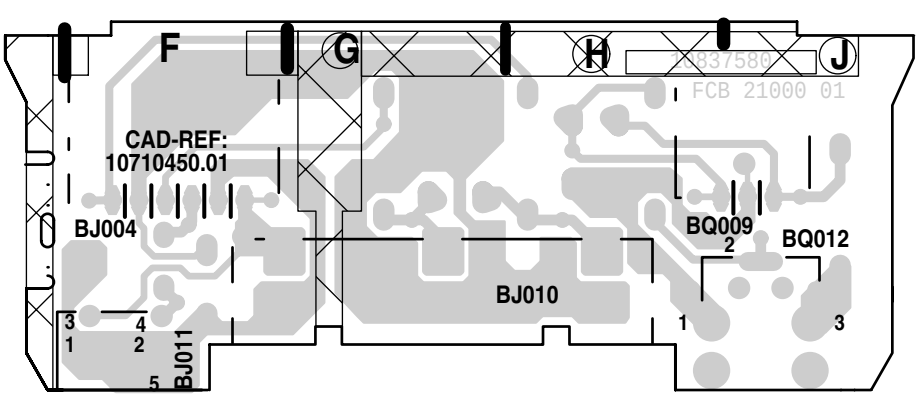
NORM	OP1(II01-03)	OP2(II01-22)	40M4Hz trap
BG	1	0	ON
I	0	0	ON
DK	1	0	ON
L	0	0	ON
L`	0	1	OFF
FM Radio	+5V to pin 12 (FM_SW)		FM Mode ON
	0V to pin 12 (FM_SW)		FM Mode OFF

FRONT CONNECTOR BOARD - PRISES EN FACADE ET INTERCONNEXION DU CLAVIER -FRONT ANSCHLUSSPLATTE - PIASTRA CONNESSIONE FRONTALE - PLÁTINA MANDOS FRONTAL

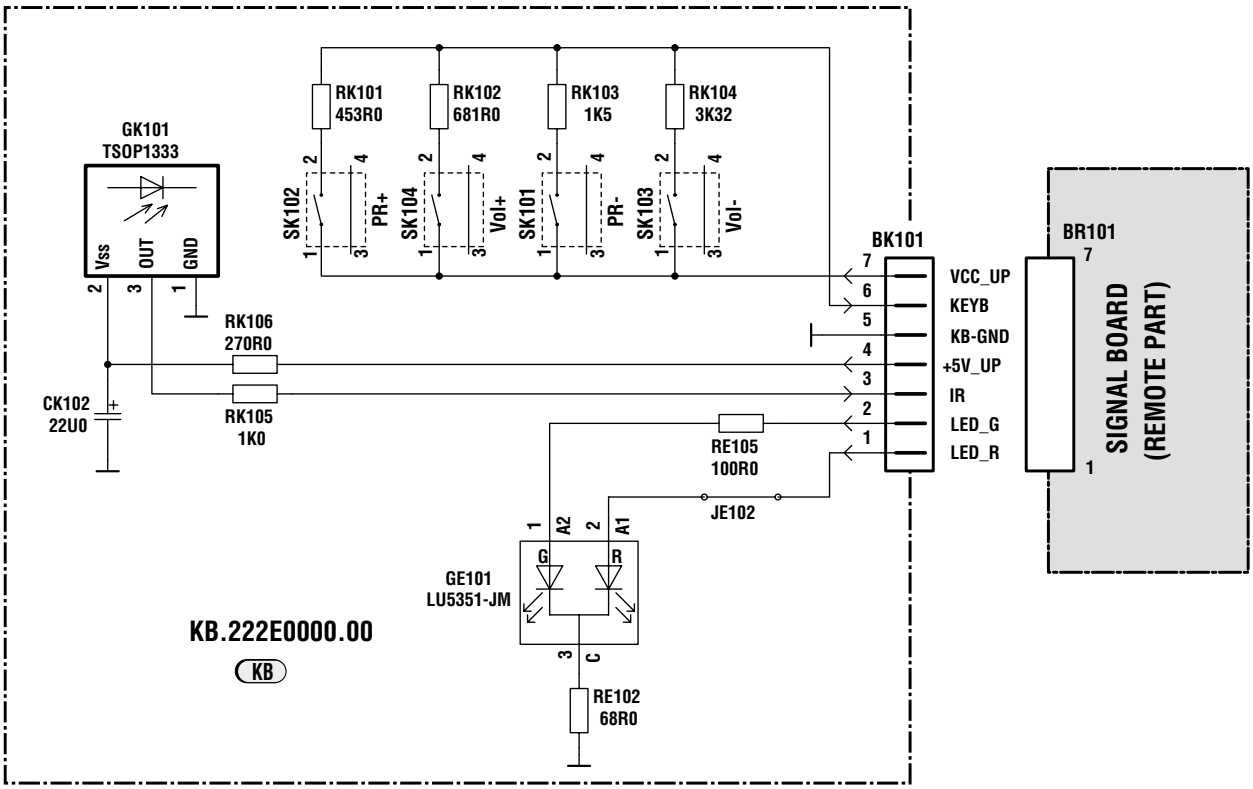
FCB.222E0000

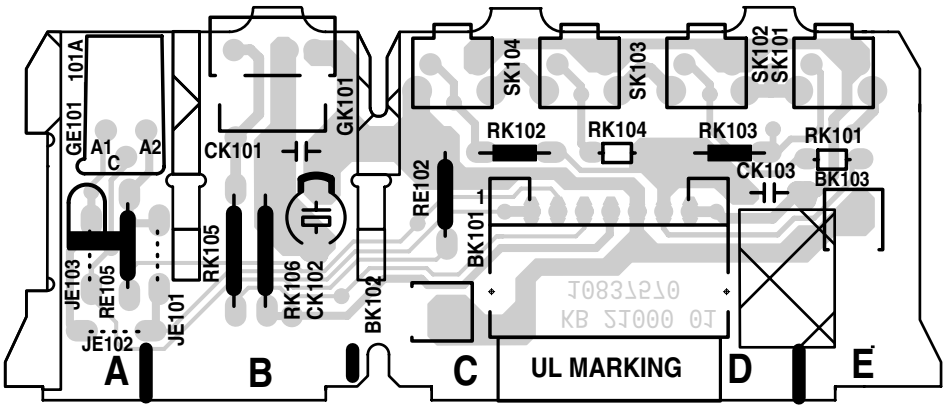


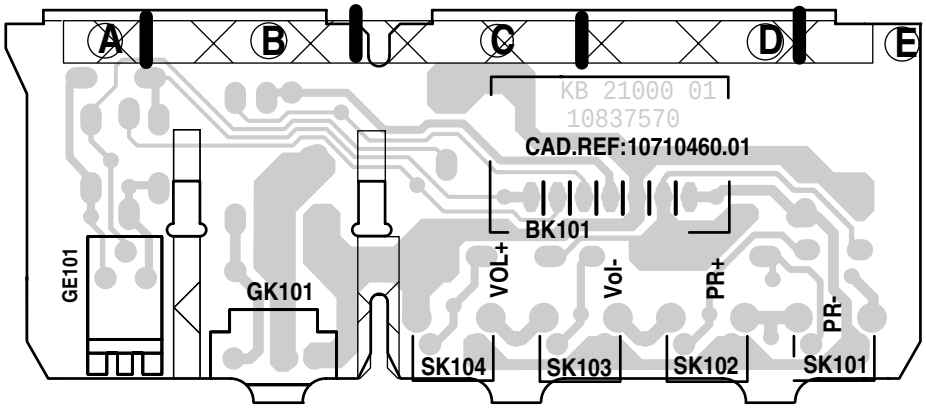




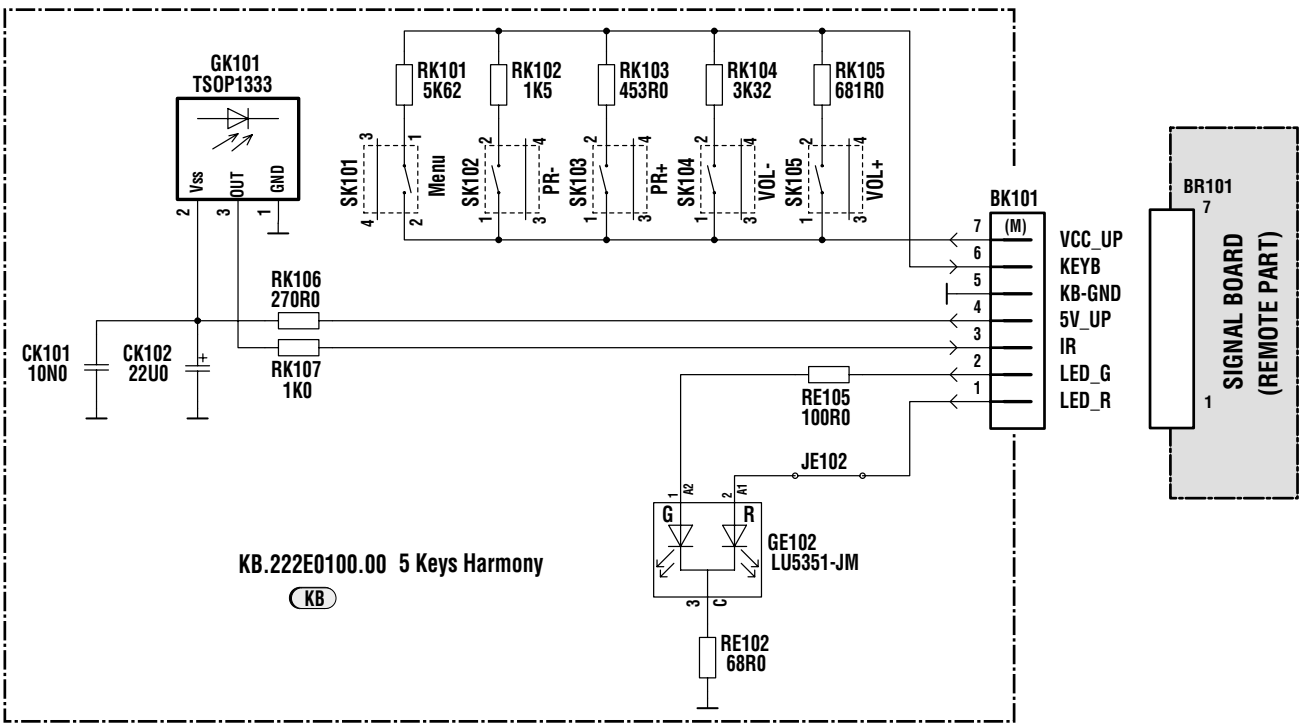
KB.222E0000.00 - KEYBOARD 4 Key

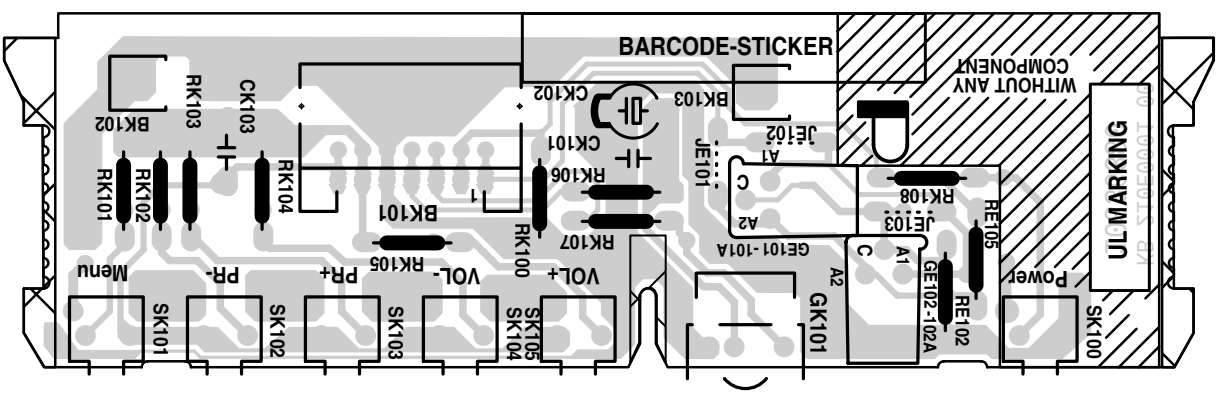


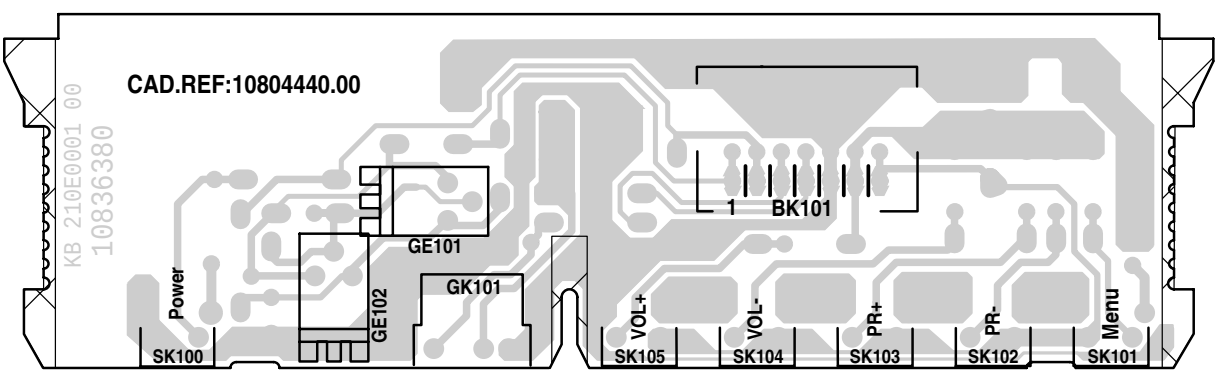




KB.222E0100.00 - KEYBOARD 5 Key



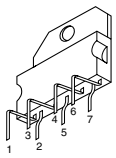




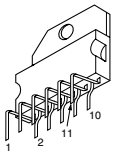
LIST OF ABBREVIATIONS - LISTE DES ABREVIATIONS - ABKÜRZUNGEN
LISTA DELLE ABBREVIAZIONI - LISTA DE ABREVIACIONES

- **AQR_ON** DISABLE AQUISITION MODE REGUL. ENABLE PWM PULSE
- **AUDIO_MUTE** MUTES AUDIO AMPLFIERS
- **AV1_8** PIN_8 DETECTOR
- **AV_LINK** AV_LINK DATAS VCR/TV
- **AV_R_ OUT** AUDIO RIGHT-OUT
- **AV_L_ OUT** AUDIO LEFT-OUT
- **AV_R_ IN** AUDIO RIGHT-IN
- **AV_L_ IN** AUDIO LEFT-IN
- **AV_B** BLUE SIGNAL FROM AV
- **AV_G** GREEN SIGNAL FROM AV
- **AV_R** RED SIGNAL FROM AV
- **AV_C_ IN** CHROMA-IN
- **AV_FB** FAST BLANK SIGNAL FROM AV SCART
- **AV_Y_ IN** VIDEO-IN
- **BEAM_INFO** BEAM CURRENT INFORMATION
- **BLKCURR** CUT OFF CURRENT
- **B_TXT** BLUE SIGNAL OUTPUT (TEXT)
- **B_OUT** BLUE SIGNAL TO VIDEO AMPLIFIER
- **BREATHING** COMPENSATE BREATHING PICTURE SIGNAL
- **BSVM** BEAM SCAN VELOCITY MODULATION
- **CMP** COMPONENT INPUT SIGNALS
- **CNT1_20V** SAFETY SIGNAL TO INSURE A GOOD CONNECTION BETWEEN SIGNAL BOARD AND POWER BOARD (BV001- BL111)
- **CNT2_20V** SAFETY SIGNAL TO INSURE A GOOD CONNECTION BETWEEN SIGNAL BOARD AND POWER BOARD (BP500- BP005)
- **CRT** CATHODE RAY TUBE
- **CVBS** VIDEO
- **CVBS_TXT** TEXT VIDEO
- **DEFMOD** MODULATION VOLTAGE GENERATED ON DFB MODULE
- **DEGAUSS** DEGAUSS SIGNAL
- **DPC** DYNAMIC PHASE COMPENSATION SIGNAL
- **EFC** EARTH FIELD CORRECTION
- **EHT** EXTREMELY HIGH TENSION
- **EHT INFO** HORIZONTAL DEFLECTION PROTECTION
- **E.W_DRIVE** EAST - WEST DRIVE SIGNAL
- **EW_PROT** SAFETY SIGNAL FROM DIODE MODULATOR
- **FB DETEC** FAST BLANKING DETECT
- **FB_TXT** FAST BLANKING (TEXT)
- **FW ADJ.** FULL WHITE ADJUSTMENT
- **G_OUT** GREEN SIGNAL TO VIDEO AMPLIFIER
- **G_TXT** GREEN SIGNAL OUTPUT (TEXT)
- **H_DRIVE** DRIVE SIGNAL FOR HORIZONTAL DEFLECTION
- **HEATER** HEATER OUTPUT FROM THE DST TO CRT
- **IIC-CL-1** I2C CLOCK BUS 1
- **IIC-CL-2** I2C CLOCK BUS 2
- **INF_POW_FAIL** POWER FAIL INFORMATION
- **IR** INFRARED RECEIVER
- **LED** LED DISPLAY
- **M_RES#** MAIN RESET SIGNAL
- **NMI** NON MASKABLE INTERRUPT
- **PHI2_REF** PHI2 REFERENCE SIGNAL
- **PKS** PEAK SENSING
- **PO** POWER ON
- **PWM** PULSE WIDTH MODULATION
- **RESET** RESET TO MICROPROCESSOR
- **RF_CVBS** DEMODULATED TERRESTRIAL TUNER SIGNAL
- **ROTATION** OUTPUT OF EARTH FIELD CORRECTION STAGE
- **R_OUT** RED SIGNAL TO VIDEO AMPLIFIER
- **R_TXT** RED SIGNAL OUTPUT (TEXT)
- **SIF** SOUND IF OUTPUT
- **SSC_V_GUARD** SAFETY DATA GENERATED BY THE VERTICAL AMPLIFIER TDA8177F
- **TUBE DETECTION** INFORMATION FOR TUBE FORMAT
- **+USYS** SYSTEM VOLTAGE
- **+/- UA** SOUND VOLTAGE
- **+UVERT** POSITIVE SUPPLY VERTICAL VOLTAGE
- **-UVERT** NEGATIVE SUPPLY VERTICAL VOLTAGE
- **+UVFB** POSITIVE SUPPLY VOLTAGE FOR VERTICAL POWER STAGE
- **+UVIDEO** VIDEO VOLTAGE FOR THE CRT BOARD
- **U_OUT** U TO VIDEO PART
- **V_OUT** V TO VIDEO PART
- **Y_OUT** Y TO VIDEO PART
- **+UVFB** POSITIVE SUPPLY VOLTAGE FOR VERTICAL POWER STAGE
- **1V8_UC** SUPPLIES 1V81H / 1V82H POWER SUPPLY UP CONVERTER PART OF SIGNAL BOARD
- **3V3_UC** 3V3 POWER SUPLY UP CONVERTER PART OF SIGNAL BOARD
- **5 V_A / 5V_V** 5V POWER SUPPLY SIGNAL BOARD
- **5V_STBYL / 5V_RP** MICROPROCESSOR SUPPLY VOLTAGE
- **5V_STBY** 5V STANDBY
- **6 V** SUPPLIES THE 5V REGULATION AND 3V3 AND 1V8 REGULATORS ON THE SIGNAL BOARD.
- **10 V** SUPPLIES THE 8V_V REGULATORS ON SIGNAL BOARD
- **8 V** 8V SUPPLY SIGNAL BOARD
- **7V_STBY** 7V STANDBY
- **33V** SUPPLY VOLTAGE TUNER
- **20V** SUPPLY VOLTAGE HORIZONTAL DRIVER AND BSVM CRT

INTEGRATED CIRCUITS AND TRANSISTORS OUTLINE -
CIRCUITS INTEGRES ET TRANSISTORS
INTEGRIERTE SCHALTUNGEN UND TRANSISTOREN - CIRCUITI INTEGRATI TRANSISTOR -
CIRCUITOS INTEGRADOS Y TRANSISTORES



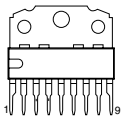
TDA 8177F
TDA7298



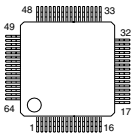
TDA7269

LM393
NJM2903D
TDA4950
TS482D
VIPER20DIP

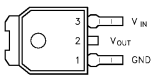
MC4558CD
LM358D
TL431ACLP
M24C64WMN6



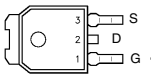
TDA6118JF



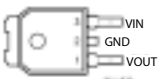
MSP3411G



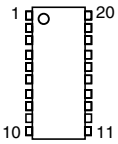
KF80BDT
LD1117DT33
LD1117DT18



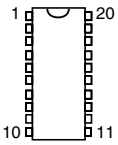
STD17NF03L



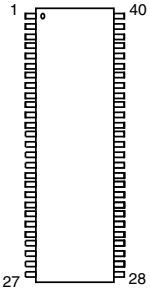
LF90ABDT



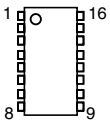
PCF8574TS



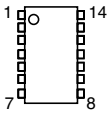
TEA6415C



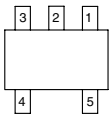
MT48LC4M16AT2TG



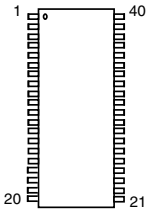
TDA8601



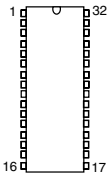
74HC4066PW



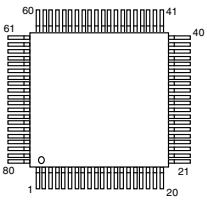
74HC1G32



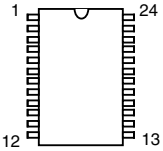
SAA4956TJ



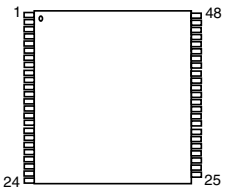
74HC123PW



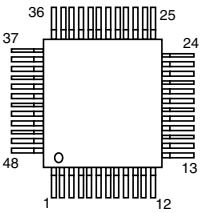
VSP9407B



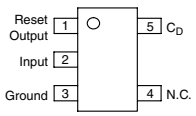
TDA9178



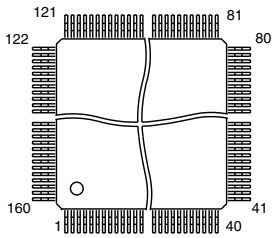
MX26LV320TTC-90



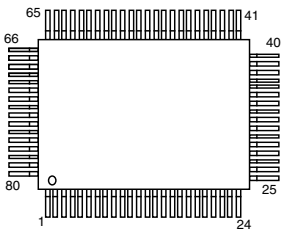
CXA2151Q



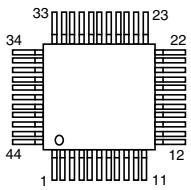
NCP303LSN30T1



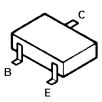
GENCAM
CUT2.1U



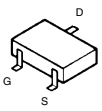
TA1360AFG



TDA9330H



BC846-BC846B
BC 847B-BC856B
BC857B-BF 799
BC 848 A/B/C
BCR141-BCR141N
BCR191
BF660
DTC113ZK



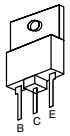
BSN20

BF420
BF 422

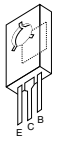
BC327
BC 337
BC546B
BC 548B
BC556B
BC 558B
BF959

BC639

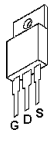
MPS750P
MPSW01A



2SC3675
2SC5717



BD135 - BD136
BD139 - BD140



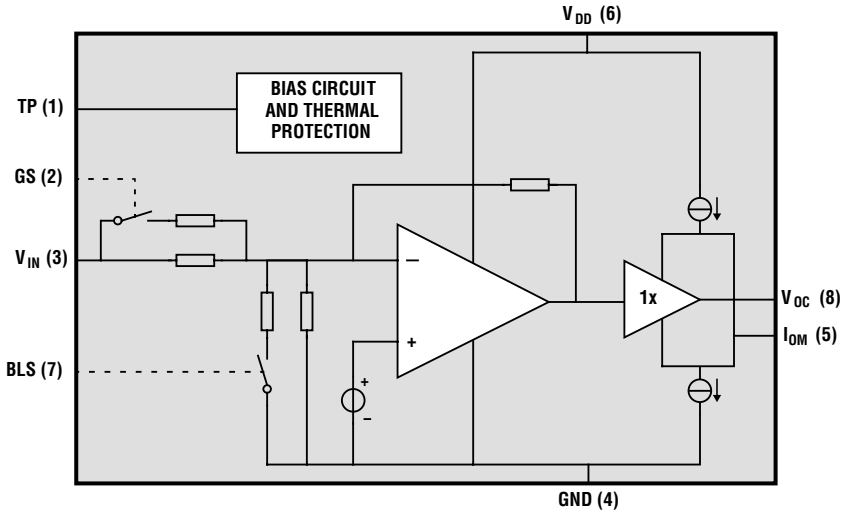
STH13NB60FI
SPW17N80C2
IRF630FP

ITC222
First issue 12 /03

INTEGRATED CIRCUITS BLOCK DIAGRAMS - SYNOPTIQUES INTERNES DES CIRCUITS INTEGRES - INTEGRIERTE SCHALTUNGEN BLOCKSCHALTBILDER SCHEMA A BLOCCHI DEL CIRCUITI INTEGRATI - VISTA INTERNA DE LOS CIRCUITOS INTEGRADOS

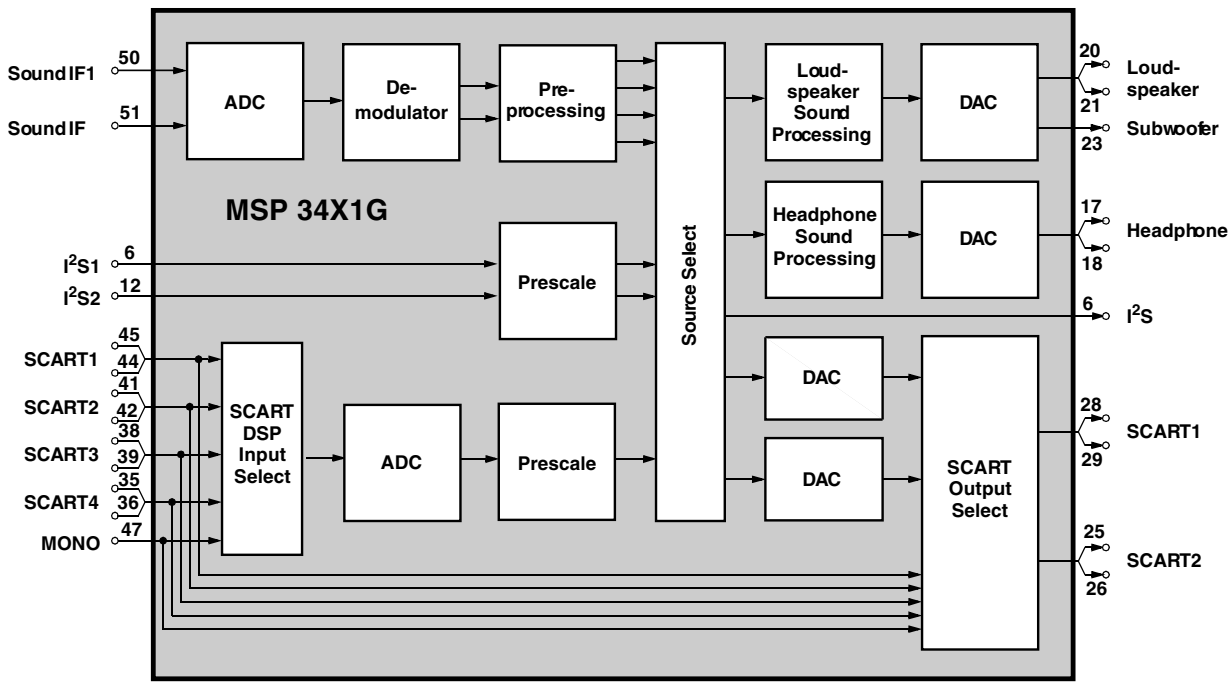
VIDEO AMPLIFIER BOARD - PLATINE AMPLIFICATEURS VIDEO - VIDEOVERSTÄRKERPLATTE - PIASTRA AMPLIFICATORE VIDEO - PLATINA AMPLIFICADOR VIDEO

IB001 - IB002 - IB003 - TDA6118JF



AUDIO PART - PARTIE AUDIO - AUDIOSTUFEN - CIRCUITO AUDIO - AUDIO

IA001- MSP34X0 / X1G



CODE CONDITION | CODE SYMPTÔME | CODE SYMPTÔME ÉTENDU (*1)

SYSTÈME DE CODAGE POUR RÉPARATION EACEM-IRIS

TABLE DES CODES SYMPTÔMES

EACEM IRIS

1	CONSTANT
2	INTERMITTENT
3	APRÈS UN CERTAIN DÉLAI
4	À CHAUD
5	À FROID
6	À LA MISE EN ROUTE
7	VIBRATIONS
8	EN MILIEU HUMIDE/PLUIE/ NEIGE
9	À SEC
A	APRÈS UNE CHUTE/ DOMMAGE DE TRANSPORT
B	APRÈS UN COUP DE FOUDRE
C	SEULEMENT CERTAINS STATIONS/ LOGICIELS/ MODE/ CANAUX/ FRÉQUENCES/ RESEAU(X)
D	QUELQUES STANDARDS SEULEMENT
E	SUR UN SEUL CANAL
F	QUELQUES ENTRÉES SEULEMENT
G	QUELQUES SORTIES SEULEMENT
H	EN VEILLE OU À L'ARRET
J	AU POINT EDIT
K	LORSQUE CONNECTÉ
L	TRACES DE LIQUIDE
M	PEU APRÈS LA MISE EN ROUTE
N	APRÈS COPIE
O	SOUS CONDITIONS SÉVERES/FORTE CHARGE
P	LORS DE L'ARRET

(*1)

ATTENTION

'LES CODES ÉTENDUS ''X'' (*-**X) POURRONT SEULEMENT ÊTRE UTILISÉS POUR INDIQUER QU'UNE DÉSIGNATION ADÉQUATE DU SYMPTÔME MANQUE DANS LE GROUPE DE SYMPTÔMES CONCERNÉ'

PRODUITS BRUNS
REV 03 - 2000/02

		1	PAS DE FONCTION	2	NIVEAU	3	QUALITÉ	4	BRUIT
1	GÉNÉRALITÉS	110	**PROBLÈME D'ALIMENTATION OU PAS DE FONCTION**	120	**PROBLÈME DE CHARGEMENT**	130	**DÉFAUT D'AFFICHAGE**	140	**BRUITS PARTICULIERS**
		111	PAS D'ALIMENTATION	121	PAS DE CHARGEMENT DE LA BATTERIE	131	DÉFAUT D'AFFICHAGE	141	BRUITS PARTICULIERS PAR DÉCHARGE DU TUBE CATHODIQUE
		112	PAS D'ALIMENTATION AVEC ADAPTATEUR SECTEUR	122	CHARGEMENT INCOMPLET DE LA BATTERIE	132	LAMPE/LED DÉFECTUEUX	142	BRUITS PARTICULIERS PAR DÉCHARGE DE LA THT
		113	PAS D'ALIMENTATION AVEC PILES SÈCHES	123	TEMPS DE CHARGE TROP LONG	133	VU-MÈTRE DÉFECTUEUX	143	BRUITS PARTICULIERS DÛS À L'ÉBÉNISTERIE/ CRAQUEMENT DU TIROIR
		114	PAS D'ALIMENTATION AVEC BATTERIE RECHARGEABLE	12X	AUTRE PROBLÈME DE CHARGE	134	AFFICHAGE ON-SCREEN DÉFECTUEUX	144	TRANSFORMATEUR BRUYANT/RONFLEMENT
		115	PAS D'ALIMENTATION AVEC BATTERIE SOLAIRE			135	AFFICHAGE ÉLECTRIQUE D'ACCORD DÉFECTUEUX	145	BRUITS PARTICULIERS À CAUSE DE COMPOSANTS
		116	PAS D'ALIMENTATION AVEC BATTERIE VOITURE			136	AFFICHAGE MÉCANIQUE D'ACCORD DÉFECTUEUX	146	GRINCEMENT
		117	COURTE DURÉE DE FONCTIONNEMENT/ DE BATTERIE			137	AFFICHAGE DU TIME CODE DÉFECTUEUX	147	CLIC
		118	NE S'ÉTEINT PAS			138	AFFICHAGE D'ALARME/D'ERREUR DÉFECTUEUX	148	BRUIT D'HORLOGE
		119	PAS DE MISE EN ROUTE À PARTIR DE LA POSITION VEILLE			139	MANQUE DE CONTRASTE DE L'AFFICHEUR	149	CRAQUEMENT
		11A	SEULEMENT ALIMENTATION; PAS DE FONCTIONNEMENT			13A	MESSAGE AFFICHÉ INCORRECT	14A	SIFFLEMENT
		11B	MARCHE/ARRÊT CYCLIQUES			13B	PAS DE RÉTRO-ÉCLAIRAGE	14X	AUTRE BRUIT ANORMAL
		11C	FUSIBLE EXTÉRIEUR (SECTEUR) FONDU			13C	BIP/PAS D'AFFICHAGE		
		11D	L'APPAREIL S'ARRÊTE PAR LUI-MÊME			13D	VOYANT D'ALARME NE FONCTIONNE PAS		
		11E	PROBLÈME DE BATTERIE DE SAUVEGARDE			13E	VOYANT D'ALARME S'ALLUME		
		11F	NE FONCTIONNE PAS			13X	AUTRE PROBLÈME D'AFFICHEUR		
		11G	PAS D'ARRÊT/MISE EN ROUTE AUTOMATIQUE						
		11H	INTERRUPTEUR/FUSIBLE DE PROTECTION SE DÉCLENCHE						
		11J	BATTERIE RECHARGEABLE NON RECONNUE						
		11X	AUTRE PROBLÈME D'ALIMENTATION						
2	COMMUNICATION	210	**PAS DE RÉCEPTION/CONNEXION**	220	**PROBLÈME DU NIVEAU DE RÉCEPTION/CONNEXION**	230	**PROBLÈME DE TRANSMISSION/ CONNEXION**	240	**COMMUNICATION BRUITÉE**
		211	PAS DE RÉCEPTION AM	221	RÉCEPTION AM FAIBLE	231	PAS D'ÉMISSION/CONNEXION	241	BRUIT DE LIGNE
		212	PAS DE RÉCEPTION FM	222	RÉCEPTION FM FAIBLE	232	ÉMISSION TROP FAIBLE/CONNEXION	242	OSCILLATION
		213	PAS DE RÉCEPTION OC	223	RÉCEPTION OC FAIBLE	233	ÉMISSION TROP FORTE	243	INTERFÉRENCE ENTRE STATIONS
		214	PAS DE RÉCEPTION VHF	224	RÉCEPTION VHF FAIBLE	234	PAS DE TRANSMISSION ENTRE LA BASE ET LE COMBINÉ/PORTABLE	24X	AUTRE PROBLÈME DE TRANSMISSION OU RÉCEPTION BRUITÉE
		215	PAS DE RÉCEPTION UHF	225	RÉCEPTION UHF FAIBLE				
		216	PAS DE RÉCEPTION SATELLITE	226	RÉCEPTION SATELLITE FAIBLE	235	TRANSMISSION FAIBLE ENTRE LA BASE ET LE COMBINÉ/PORTABLE		
		217		227					
		218	PAS DE RÉCEPTION EN HAUTE DÉFINITION	228	RÉCEPTION EN HAUTE DÉFINITION FAIBLE	236	PAS DE TRANSMISSION INFRAROUGE		
		219	PAS DE RÉCEPTION GPS/OPS	229	RÉCEPTION GPS/OPS FAIBLE	237	CONNEXION DANS UN SEUL SENS		
		21A	PAS DE RÉCEPTION SUR DIFFUSION NUMÉRIQUE	22A	RÉCEPTION DE MAUVAISE QUALITÉ SUR DIFFUSION NUMÉRIQUE	238	MODEM BLOQUE IMMÉDIATEMENT APRÈS LA CONNEXION		
		21B	PAS DE RÉCEPTIONINFRAROUGE	22B	RÉCEPTION INFRAROUGE DE MAUVAISE QUALITÉ	239	MODEM PERD LA LIGNE PENDANT LA CONNEXION		
		21C	PAS DE TONALITÉ	22X	AUTRE PROBLÈME DE RÉCEPTION FAIBLE	23X	AUTRE PROBLÈME DE TRANSMISSION/ CONNEXION		
		21D	PAS DE LIAISON FAX/MODEM						
		21E	MODEM NE RÉPOND PAS/PAS DE PORTEUSE						
		21F	PAS DE CONNEXION RÉSEAU / L'INITIALISATION RÉSEAU NE RÉUSSIT PAS						
		21X	AUTRE PROBLÈME DE RÉCEPTION						
3	IMAGE	310	**ABSENCE D'IMAGE**	320	**DÉFAUT DU NIVEAU D'IMAGE**	330	**MAUVAISE QUALITÉ D'IMAGE**	340	**IMAGE BRUITÉE**
		311	ABSENCE D'IMAGE EN MODE EE	321	IMAGE TROP SOMBRE	331	DÉFINITION ERRONÉE DE L'IMAGE	341	NEIGE
		312	ABSENCE D'IMAGE EN LECTURE	322	IMAGE TROP CLAIRE	332	FOYER ERRONÉ	342	DOT OU DROPOUTS DANS L'IMAGE
		313	ABSENCE D'IMAGE DANS LE VISEUR	323	CONTRASTE FAIBLE	333	FRANGES SUR L'IMAGE	343	BARRE DE BRUIT DANS L'IMAGE
		314	ABSENCE D'IMAGE/TRAME SEULE	324	CONTRASTE ÉLEVÉ	334	FANTÔME/RETARD EXCESSIF	344	LIGNES D'EFFACEMENT DANS L'IMAGE
		315	PAS DE TRAME/ÉCRAN NOIR	325	SATURATION DU NIVEAU DU BLANC OU DU NOIR	335	LINÉARITÉ OU GÉOMÉTRIE ERRONÉE	345	RONFLEMENT DANS L'IMAGE
		316	LIGNE HORIZONTALE SEULEMENT	326	OMBRE	336	DIMENSION ERRONNÉE DE L'IMAGE	346	HALOS DANS L'IMAGE
		317	LIGNE VERTICALE SEULEMENT	327	IMAGE TRONQUÉE	337	CENTRAGE ERRONÉ DE L'IMAGE	347	BRUIT DE COMMUTATION DES TÊTES
		318	PAS D'IMAGE SUR LE LCD	32X	AUTRE PROBLÈME DE NIVEAU D'IMAGE	338	IMAGE INCLINÉE	348	BRUIT DE SURMODULATION
		319	PAS D'AFFICHAGE SUR LE 2ÈME MONITEUR (OU PLUS)			339	V-SIZE INSUFFISANT	349	MOIRÉ
						33A	H-SIZE INSUFFISANT	34A	BRUIT DE MOSAÏQUE
		31X	AUTRE PROBLÈME D'ABSENCE D'IMAGE			33X	AUTRE PROBLÈME DE GÉOMÉTRIE D'IMAGE	34B	IMAGE CODÉE
								34X	AUTRE PROBLÈME D'IMAGE BRUITÉE
4	COULEUR	410	**ABSENCE DE COULEUR**	420	**MANQUE/EXCÈS DE COULEUR**	430	**MAUVAISE QUALITÉ DE COULEUR**	440	**COULEUR BRUITÉE**
		411	ABSENCE DE COULEUR EN MODE EE	421	MANQUE DE COULEUR	431	ABSENCE DE CERTAINES COULEURS	441	COULEUR BRUITÉE EN NOIR ET BLANC
		412	ABSENCE DE COULEUR EN LECTURE	422	EXCÈS DE COULEUR	432	MAUVAISE BALANCE DU BLANC	442	RAYURES DE COULEUR
		413	ABSENCE DE COULEUR DANS LE VISEUR	42X	AUTRE PROBLÈME DE NIVEAU DE COULEUR	433	PROBLÈME DE TEINTE	443	BARRES DE COULEUR SUR L'IMAGE
		414	ABSENCE DE COULEUR DANS UNE PARTIE DE L'IMAGE			434	ERREUR DE PURETÉ	44X	AUTRE PROBLÈME DE COULEURS BRUITÉES
						435	MAUVAIS IMPACT DU FAISCEAU/ UNIFORMITÉ DES BLANCS		
		41X	AUTRE PROBLÈME D'ABSENCE DE COULEUR			436	ERREUR DE CONVERGENCE		
						437	SUPERPOSITION ERRONÉE DES COULEURS		
						438	PHÉNOMÈNE DE MOIRAGE/PATRON D'IRISATION		
						439	DÉRIVE DE COULEUR		
						43X	AUTRE PROBLÈME DE QUALITÉ DES COULEURS		
5	SON	510	**ABSENCE DE SON**	520	**MANQUE/EXCÈS DE SON**	530	**MAUVAISE QUALITÉ DU SON**	540	**SON BRUITÉ**
		511	ABSENCE DE SON EN MODE EE	521	MANQUE DE SON	531	MAUVAISE RÉPONSE EN FRÉQUENCE	541	RONFLEMENT
		512	PAS DE LECTURE DES MESSAGES TÉLÉPHONIQUES	522	EXCÈS DE SON	532	DISTORSION DU SON	542	SIFFLEMENT
		513	PAS DE LECTURE DES MESSAGES LAISSÉS	523	PROBLÈME DE BALANCE	533	PAS D'AIGUËS	543	INTERFÉRENCES
		514	PAS DE SON EN LECTURE	524	PROBLÈME DE FADING	534	PAS DE GRAVES	544	STATIQUE/CLAQUEMENT OU CLIQUETIS
		515	PAS DE SON DU COMBINÉ	525	NIVEAU SONORE SUBSISTE/PAS DE COUPURE SON (MUTE)	535	SON DU CASQUE FAIBLE	545	BOURDONNEMENT
		516	PAS DE SON DU HAUT-PARLEUR			53X	AUTRE PROBLÈME DE QUALITÉ SONORE	546	BRUIT PRODUIT PAR POTENTIOMÈTRE
		517	PAS DE SON DU CASQUE	52X	OTHER 'AUDIAUTRE PROBLÈME DE NIVEAU SONOREO LEVEL' PROBLEM			547	BRUIT D'ALLUMAGE/D'ACCROCHAGE
		518	PAS DE SON DU MICROPHONE					548	SIFFLEMENT
		519	PAS DE SON SUR SORTIE NUMÉRIQUE					549	BRUIT DE QUANTIFICATION
		51X	AUTRE PROBLÈME D'ABSENCE DE SON					54X	AUTRE PROBLÈME DE SON BRUITÉ
6	MÉCANISMES	610	**PAS DE FONCTION MÉCANIQUE**	620	**FONCTION MÉCANIQUE IRRÉGULIÈRE**	630	**PROBLÈME DE VITESSE**	640	**BRUIT MÉCANIQUE**
		611	PAS DE ROTATION DU MOTEUR/DISQUE	621	ROTATION IRRÉGULIÈRE	631	TROP RAPIDE	641	BRUIT DE ROTATION/DE TAMBOUR
		612	PAS DE FWD	622	FWD IRRÉGULIER	632	TROP LENT	642	BRUIT DE MOTEUR
		613	PAS DE REVERSE	623	REVERSE IRRÉGULIER	633	VITESSE N'EST PAS RÉGLABLE	643	VENT/FUITE D'AIR
		614	PAS DE FF OU DE REW	624	FF OU REW IRRÉGULIER	63X	AUTRE PROBLÈME DE VITESSE	644	GRINCEMENT
		615	PAS DE CHARGEMENT	625	'CHARGEMENT IRRÉGULIER MÉDIA (DISQUE, CASSETTE)			645	BRUIT DE VENTILATEUR
		616	PAS DE DÉCHARGEMENT OU D'ÉJECTION					646	GRATTEMENT DE DISQUE
		617	PAS D'ARRÊT AUTOMATIQUE	626	DÉCHARGEMENT OU ÉJECTION IRRÉGULIER			647	CHARGEMENT DE CASSETTE BRUYANT
		618	PAS DE MOUVEMENT DU BRAS	627	ARRÊT AUTOMATIQUE IRRÉGULIER			648	BRUIT D'ENTRAÎNEMENT
		619	PAS D'ÉJECTION DU DISQUE	628	MOUVEMENT IRRÉGULIER DU BRAS			649	COMMUTATEUR OU INTERRUPTEUR BRUYANT
		61A	CHARGEMENT/DÉCHARGEMENT DU MAGASIN	629	ÉJECTION IRRÉGULIÈRE DU DISQUE			64A	ÉCRASEMENT
		61B	TOUCHE/INTERRUPTEUR NE FONCTIONNE PAS	62A	CHANGEMENT DE DIRECTION INCONTRÔLÉ			64B	GRONDEMENT
		61X	AUTRE PROBLÈME DE NON FONCTIONNEMENT MÉCANIQUE	62B	CHANGEMENT DE DISQUE INCORRECT			64C	VIBRATION
				62X	AUTRE PROBLÈME DE MOUVEMENT INCONTRÔLÉ			64X	AUTRE PROBLÈME DE BRUIT MÉCANIQUE
7	TRAITEMENT DE DONNÉES	710	**PAS DE TRAITEMENT DE DONNÉES**	720	**MAUVAIS TRAITEMENT DE DONNÉES**	730	**MAUVAIS AFFICHAGE DE DONNÉES**	740	**CLAVIER/OUTIL DE POINTAGE**
		711	ABSENCE D'ÉCRAN INITIAL	721	DONNÉES FAUSSÉES	731	CARACTÈRES FAUX	741	SOURIS/TRACKBALL/TRACKPAD NE FONCTIONNE PAS
		712	PAS DE RÉINITIALISATION DU SYSTÈME	722	RÉINITIALISATION DU SYSTÈME PENDANT LE FONCTIONNEMENT	732	CARACTÈRES MANQUANTS	742	CLAVIER BLOQUÉ
		713	PAS DE DÉMARRAGE DU SYSTÈME			733	AFFICHAGE GRAPHIQUE DÉFECTUEUX	743	OUTIL DE POINTAGE BLOQUÉ
		714	PERIPHERIQUE/MODULE ENFICHABLE NE FONCTIONNE PAS	723	'SYSTÈME SUSPEND L'EXÉCUTION/''SE PLANTE'''	734	COMMUNICATION ERRONÉE ENTRE LES MODES GRAPHIQUE ET CARACTÈRES	744	TOUCHE(S) COLLÉE(S)
		715	CLAVIER NE FONCTIONNE PAS	724	FONCTIONNEMENT ERRONÉ DU MODULE ENFICHABLE	735	MAUVAISE FONCTION DU CURSEUR/PROMPT	745	TOUCHE(S) INOPÉRANTE(S)
		716	PAS DE FONCTIONNEMENT D'AUTRES ENTRÉES/SORTIES	725	FONCTIONNEMENT ERRONÉ DU CLAVIER	736	COULEUR ERRONÉE DE L'AFFICHAGE DES DONNÉES	746	OUTIL DE POINTAGE NE SUIT PAS CORRECTEMENT
		717	PAS DE SAUVEGARDE DE DONNÉES	726	FONCTIONNEMENT DÉFECTUEUX D'AUTRES ENTRÉES/SORTIES			747	OUTIL DE POINTAGE INSTABLE
		718	PAS DE COMMUNICATION DE DONNÉES	727	MAUVAISE SAUVEGARDE DE DONNÉES	737	PAS DE PAGINATION OU DE DÉFILEMENT	748	TOUCHE DROITE OU GAUCHE DE LA SOURIS INOPÉRANTE
		719	AFFICHAGE D'UN MESSAGE D'ERREUR	728	MAUVAISE COMMUNICATION DE DONNÉES	73X	AUTRE PROBLÈME DANS L'AFFICHAGE DES DONNÉES	749	SURFACE DU TRACKPAD ENDOMMAGÉE
		71A	DÉFAUT SECTEUR DÉMARRAGE DISQUE DUR	729	ERREUR MÉMOIRE			74A	TOUCHE(S) DU CLAVIER ENDOMMAGÉE(S)
		71B	DÉFAUT DÉMARRAGE LECTEUR DISQUETTE	72A	'NÉCESSITE UN ''SETUP'' AU DÉMARRAGE'			74X	AUTRES PROBLEMES DU CLAVIER/OUTIL DE POINTAGE
		71X	AUTRE PROBLÈME D'ABSENCE DE TRAITEMENT DES DONNÉES	72X	AUTRE DÉFAUT DANS LE TRAITEMENT DES DONNÉES				
8	IMPRESSION/COPIE/NUMÉRISATION (SCAN)	810	**PAS D'IMPRESSION/COPIE/NUMÉRISATION (SCAN)**	820	**ERREUR D'IMPRESSION/COPIE/NUMÉRISATION (SCAN)**	830	**MAUVAISE QUALITÉ D'IMPRESSION**	840	**IMPRESSION BRUITÉE**
		811	PAS D'IMPRESSION	821	IMAGE INVERSÉE (NÉGATIF/POSITIF)	831	POSITIONNEMENT ERRONÉ DE L'IMPRESSION	841	TRAITS SUR L'IMPRESSION
		812	PAS DE COMMUNICATION AVEC L'IMPRIMANTE	822	AVANCEMENT ERRONÉ DU PAPIER	832	CONTRASTE D'IMPRESSION FAIBLE	842	IMPRESSION SALE
		813	PAS DE CHARGEMENT DU PAPIER	823	COMMUNICATION ERRONÉE DU MODE D'IMPRESSION	833	CONTRASTE D'IMPRESSION EXCESSIF	843	ODEUR DÉSAGRÉABLE (OZONE)
		814	PAS D'AVANCEMENT DU PAPIER	824	COPIE TROP SOMBRE	834	IMPRESSION FLOUE	844	LIGNES NOIRES/RAYURES DANS LE SENS DE DÉFILEMENT
		815	PAS DE DURABILITÉ DE L'IMAGE	825	COPIE TROP CLAIRE	835	IMPRESSION VAGUE		
		816	PAS DE CHARGEMENT DU DOCUMENT	826	COPIE NOIRE	836	POINTS MANQUANTS DANS L'IMPRESSION	845	LIGNES BLANCHES/RAYURES DANS LE SENS DE DÉFILEMENT
		817	SCANNER NE FONCTIONNE PAS	827	COPIE BLANCHE	837	RAYURES DANS LES ZONES COLORÉES		
		81X	AUTRE PROBLÈME D'IMPRESSION/COPIE/ NUMÉRISATION (SCAN)	828	NIVEAU DE COULEUR INSUFFISANT	838	ABSENCE DE COULEUR DANS UNE PARTIE DE L'IMAGE	846	LIGNES NOIRES/RAYURES COUPANT LE SENS DE DÉFILEMENT
				829	CHARGEMENT DE DOCUMENTS IRRÉGULIER				
				82A	ERREUR DE LA FONCTION CORRECTION	839	IMPRESSION/COPIE DE L'IMAGE INCOMPLÈTE	847	LIGNES BLANCHES/RAYURES COUPANT LE SENS DE DÉFILEMENT
				82B	MAUVAISE QUALITÉ DE NUMÉRISATION (SCAN)	83A	MAUVAISE CALIBRATION		
				82X	AUTRE PROBLÈME D'IMPRESSION/COPIE/ NUMÉRISATION (SCAN)	83X	AUTRE PROBLÈME DE QUALITÉ D'IMPRESSION	84X	AUTRE PROBLÈME D'IMPRESSION BRUITÉE

	5	INSTABILITÉ	6	PROBLÈMES PHYSIQUES OU D'ENREGISTREMENT	7	FONCTION SPÉCIALE	8	AUTRES CONDITIONS
	150	**PROBLÈME DE TÉLÉCOMMANDE**	160	**DOMMAGE PHYSIQUE**	170	**DÉFAUT DE LA FONCTION GÉNÉRALE**	180	**DEMANDES SPÉCIALES**
	151	PAS DE FONCTIONNEMENT DE LA TÉLÉCOMMANDE	161	ÉBÉNISTERIE/FAÇACE ENDOMMAGÉE/DÉFORMÉE	171	FONCTIONNEMENT ERRONÉ DE L'HORLOGE/MINUTERIE	181	TEST ET CONTRÔLE
	152	FONCTIONNEMENT ERRONÉ DE LA TÉLÉCOMMANDE	162	POIGNÉE/CLIP ENDOMMAGÉ	172	FONCTIONNEMENT ERRONÉ DE L'ARRÊT PROGRAMMÉ PAR MINUTERIE	182	REMISE EN ÉTAT
	153	PROBLÈME DE PROGRAMMATION/MODE D'APPRENTISSAGE DE LA TÉLÉCOMMANDE	163	BOUTON DE COMMANDE/CLAVIER ENDOMMAGÉ			183	CONVERSION DE FRÉQUENCE/SYSTÈME
			164	TRAPPE/COUVERCLE ENDOMMAGÉ	173	PROGRAMMATION ERRONÉE DE LA MINUTERIE	184	INITIALISATION/INSTALLATION RÉCLAMÉE
			165	JOINTS ENDOMMAGÉS	174	DÉFAUT DE FONCTIONNEMENT DU TIMER	185	MODIFICATION/CHANGEMENT DE CIRCUIT OU D'INSTALLATION
	154	FAIBLE SENSIBILITÉ DE LA TÉLÉCOMMANDE	166	FICHE/PRISE/CONNEXION/CONNECTEUR ENDOMMAGÉ	175	DÉFAUT DE FONCTIONNEMENT DU TIMER		
	15X	AUTRE PROBLÈME DE TÉLÉCOMMANDE	167	LENTILLE ENDOMMAGÉE	176	FONCTIONNEMENT ERRONÉ DE LA PAUSE À L'ENREGISTREMENT	186	ERREUR DE MODÈLE DANS LE CARTON
			168	CELLULE OU POINTE DE LECTURE ENDOMMAGÉE	177	FONCTIONNEMENT ERRONÉ DE LA LECTURE PROGRAMMÉE	187	ACCESSOIRES MANQUANTS
			169	ANTENNE ENDOMMAGÉE	178	FONCTION MÉMOIRE DÉFECTUEUSE	188	PIÈCES NE PEUVENT ÊTRE CONNECTÉES/ASSEMBLÉES
			16A	TUBE CATHODIQUE/VISEUR/AFFICHEUR LCD ENDOMMAGÉ	179	COMMUTATION DES ENTRÉES DÉFECTUEUSES		
			16B	COMPOSANT MANQUANT OU NON CONFORME	17A	COMMUTATION DES SORTIES DÉFECTUEUSES	189	ERREUR DE COULEUR
			16C	DISPARITION DE LA SIGNALÉTIQUE	17B	CHOC ÉLECTRIQUE/DÉCHARGE ÉLECTROSTATIQUE	18B	PROBLÈME DE MONTAGE DE LA BATTERIE
			16D	FUMÉES SORTANT DE L'APPAREIL	17C	FONCTION RECHERCHE INCORRECTE (INDEX/VUE/TITRE/CHAPITRE/PISTE ...)	18X	DEMANDE PARTICULIÈRE DU CLIENT
			16E	SURFACE EXTÉRIEURE ALTÉRÉE (SOUFFLURES/PELURES/CORROSION/RAYURES)	17D	MAUVAISE LANGUE/CARACTÈRE	18Z	PAS DE SYMPTÔME DISPONIBLE
			16F	ODEURS	17E	AFFICHAGE CODE ERREUR		
			16G	MEUBLE FRAGILE/ABÎMÉ	17F	INTERRUPTEUR INOPÉRANT		
			16H	HAUT-PALEUR ENDOMMAGÉ	17G	PÉDALE INOPÉRANTE		
			16J	TEMPÉRATURE EXCESSIVE/PIÈCES FONDUES	17H	MODE VEILLE INCORRECT		
			16K	CORPS ÉTRANGER SUR/DANS L'APPAREIL	17J	MODE SOMMEIL DÉFECTUEUX		
			16L	TRACES/MARQUES DE COMBUSTION	17K	PAS DE SIGNAL SONORE D'ALARME		
			16M	SURFACE INTÉRIEURE ALTÉRÉE (SOUFFLURES/PELURES/CORROSION/RAYURES)	17L	DÉFAUT DE FONCTIONNEMENT DU CODE PARENTAL/BLOCAGE DE CLAVIER		
			16N	CORDON D'ALIMENTATION ENDOMMAGÉ	17M	DÉFAUT DE COMMUTATION DE MODE		
			16P	ACCESSOIRE ENDOMMAGÉ	17N	PROBLÈME DE FONCTIONNEMENT DES MENUS		
			16R	DÉCOLORATION	17X	AUTRE FONCTION DÉFECTUEUSE		
			16X	AUTRE DOMMAGE PHYSIQUE				
	250	**COMMUNICATION INSTABLE**	260	**DÉFAUT D'ACCORD**	270	**DÉFAUT DE COMMUNICATION SPÉCIALE**	280	**MAUVAISE RÉCEPTION PARTICULIÈRE**
	251	DÉRIVE DE L'ACCORD	261	DÉFAUT DE L'ACCORD MANUEL	271	DÉFAUT DE LA COMPOSITION DU NUMÉRO	281	RÉCEPTION STÉRÉO ERRONÉE
	252	FADING/DISPARITION DU SIGNAL	262	DÉFAUT DE L'ACCORD AUTOMATIQUE	272	DÉFAUT DE LA SÉLECTION DES CANAUX	282	FONCTIONNEMENT ERRONÉ DU CANAL PRINCIPAL (A)
	253	RÉCEPTION INTERMITTENTE/INTERRUPTION DU SIGNAL	263	ACCORD ERRONÉ	273	DÉFAUT DE LA RÉPONSE AUTOMATIQUE	283	FONCTIONNEMENT ERRONÉ DU CANAL SUPPLÉMENTAIRE (B)
	254	CONNEXION INOPÉRANTE OU INSTABLE AVEC AFFICHAGE DE SIGNAL FAIBLE	264	DÉFAUT DE LA MÉMOIRE DES CANAUX	274	DÉFAUT DE LA LECTURE DU MESSAGE	284	MAUVAISE RÉCEPTION SSB
			26X	AUTRE PROBLÈME DE SYNTONISATION	275	SYNTONISATION AUTOMATIQUE DÉFECTUEUSE	285	RDS/VPS/PDC/XDS DÉFECTUEUX
	25X	AUTRE PROBLÈME D'INSTABILITÉ DE RÉCEPTION OU TRANSMISSION			276	DÉFAUT DU TRAITEMENT DE LA VOIX	286	DÉFAUT DE RÉCEPTION TÉLÉTEXTE/ SOUS-TITRES/EPG
					277	PAS DE TONALITÉ D'APPEL		
					278	SONNERIE FORTE/FAIBLE	287	MAUVAISE RÉCEPTION SATELLITE/RTTY
					279	MODEM BLOQUÉ CONNECTÉ	288	MAUVAIS FONCTIONNEMENT FAX
					27A	FAX NE FONCTIONNE PAS CORRECTEMENT	289	MODEM NON RECONNU PAR LE SYSTÈME
					27B	MODEM GÊNÈRE DES PROBLÈMES DE TÉLÉPHONE	28A	AFFICHAGE COÛT APPEL INCORRECT
					27C	PAS DE TONALITÉ MODEM	28B	FONCTIONNEMENT MAINS LIBRES INCORRECT
					27X	AUTRE DÉFAUT DANS LA COMMUNICATION	28C	APPAREIL VERROUILLÉ
							28X	AUTRE PROBLÈME PARTICULIER DE RÉCEPTION
	350	**IMAGE INSTABLE**	360	**MAUVAIS ENREGISTREMENT D'IMAGE**	370	**MAUVAISE FONCTION SPÉCIALE LIÉE À L'IMAGE**	380	**DÉFAUT D'AFFICHAGE/TUBE IMAGE**
	351	PROBLÈME DE SYNCHRONISATION	361	PAS D'ENREGISTREMENT D'IMAGE	371	PROBLÈME DE MONTAGE	381	AFFICHAGE/TUBE IMAGE BRÛLÉ
	352	POMPAGE DE L'IMAGE	362	PAS DE PROTECTION D'EFFACEMENT DE LA VIDÉO	372	FADING/FONDU ERRONÉ	382	AFFICHAGE/TUBE IMAGE RAYÉ
	353	JITTER DANS L'IMAGE	363	PAS D'EFFACEMENT DE L'ENREGISTREMENT VIDÉO PRÉCÉDENT	373	COMMUNICATION NÉGATIVE/POSITIVE ERRONÉE	383	POUSSIÈRE SUR L'AFFICHAGE/TUBE IMAGE
	354	VACILLEMENT DE L'IMAGE (HORIZONTAL OU VERTICAL)	364	EFFACEMENT INOPINÉ DE L'IMAGE	374	SUPERPOSITION/TELOP ERRONÉ	384	LUMINOPHORE/PIXEL MANQUANT SUR L'AFFICHAGE/TUBE IMAGE
			365	PAS D'ENREGISTREMENT CAMÉRA	375	FONCTION D'IMAGE NUMÉRIQUE/P-IN-P ERRONÉE		
	355	PAPILLOTEMENT DE L'IMAGE	366	ENREGISTREMENT D'UNE SEULE TRAME	376	TRANSMISSION D'IMAGE ERRONÉE	385	PHOSPHORE OU PIXEL BLANC
	356	FLASH DE L'IMAGE	367	N'ENREGISTRE QUE QUELQUES IMAGES	377	FONCTION D'ORDINATEUR ERRONÉE	386	LIGNES VERTICALES/HORIZONTALES SUR L'IMAGE
	357	MUTING CYCLIQUE DE L'IMAGE	36X	AUTRE PROBLÈME D'ENREGISTREMENT	378	FONCTION GENLOCK ERRONÉE		
	358	INSTABILITÉ D'IMAGE À LA MISE EN MARCHE			379	FONCTION FLASH/STROBOSCOPE ERRONÉE	387	DÉFAUT DE PIXEL HORS TOLÉRANCE
	359	DÉRIVE/DÉFILEMENT HORIZONTAL			37A	DÉFAUT D'IMAGE/ZOOM NUMÉRIQUE	388	FOND D'ÉCRAN MARQUÉ/BRÛLÉ
	35A	IMAGE FIGÉE			37B	AUTO-EDIT ERRONÉ	38X	AUTRE DÉFAUT D'IMAGE DU CAPTEUR OU DE L'AFFICHEUR
	35B	SAUT/RÉPÉTITION D'IMAGE			37C	STABILISATEUR D'IMAGE DÉFECTUEUX		
	35X	AUTRE PROBLÈME D'INSTABILITÉ DE L'IMAGE			37D	FONCTION CAPTURE D'IMAGE INCORRECTE		
					37E	FONCTION SOUS-TITRAGE INCOR

EACEM - CODES DE SECTION

COMMUN	
ANT	ÉTAGE D'ANTENNE
APR	TRAITEMENT DES SIGNAUX (ANALOGIQUE)
BCH	CHARGEMENT DE BATTERIE
CLK	ÉTAGE DE MINUTERIE
CPA	TRAITEMENT COULEUR ANALOGIQUE
CTR	PANNEAU DE CONTRÔLE
DPR	TRAITEMENT DES SIGNAUX (NUMÉRIQUE)
ERA	CIRCUIT EFFACEMENT
FLX	PLAQUETTE FLEXIBLE
HFS	ÉTAGE DE HAUTE FRÉQUENCE
IDS	CIRCUIT DE DISPLAY
IFC	CIRCUIT FI
ILN	SECTION i.LINK (IEEE1394)
INP	ÉTAGE D'ENTRÉE DES SIGNAUX
IRD	CIRCUIT INFRAROUGE (IrDA)
MEM	ÉTAGE DE MÉMOIRE
OUT	ÉTAGE DE SORTIE DES SIGNAUX
PRG	ÉTAGE DE PROGRAMMATION
PRT	CIRCUIT DE PROTECTIONCIRCUIT
PSU	ALIMENTATION
PWA	AMPLIFICATEUR DE PUISSANCE
REM	TÉLÉCOMMANDE
RFU	AMPLIFICATEUR/UNITÉ RF
SFT	SOFTWARE (BANDE/DISQUE/ETC.)
SNS	UNITÉ DE DÉTECTION
SVO	ÉTAGE D'ASSERVISSEMENT
SYS	ÉTAGE DU SYSTÈME DE CONTRÔLE
TUN	ÉTAGE DE SYNTONISATION
TXT	TRAITEMENT DE TEXTE

AUDIO	
APA	TRAITEMENT AUDIO ANALOGIQUE
APD	TRAITEMENT AUDIO DIGITAL
CDC	CHANGEUR DE DISQUES
CDS	SECTION CD
MDC	CHANGEUR MD
MDS	CIRCUIT MINIDISQUE
MIC	ÉTAGE DE MICROPHONE
PUD	PHONOLECTEUR
SHD	TÊTE(S) FIXE(S)
SPK	HAUT-PARLEUR

VIDÉO	
CAM	CIRCUIT CAMÉRA
CPD	TRAITEMENT COULEUR DIGITAL
CRT	ÉCRAN CATHODIQUE
DFL	CIRCUIT DE DÉVIATION
DVD	SECTION DVD
FPK	CIRCUIT DE MISE AU POINT
IMG	UNITÉ D'AFFICHAGE D'IMAGES

VIDÉO	
LCD	SECTION LCD
LMP	CIRCUIT LAMPE/FLASH
VPA	TRAITEMENT VIDÉO ANALOGIQUE
VPD	TRAITEMENT VIDÉO DIGITAL
VWF	VISEUR

PC	
FDD	ENTRAÎNEMENT DU DISQUE FLEXIBLE
FMW	PROGRAMMATION FIXE
HDD	ENTRAÎNEMENT DU DISQUE DUR
ISA	SECTION ISA
JST	MANETTE DE JEU
KBD	CLAVIER
MDM	CIRCUIT MODEM
NIF	INTERFACE RÉSEAU
PAR	PORTE PARALLÈLE
PCC	CARTE PC
PCI	CIRCUIT PCI
SCS	PORTE SCSI
SER	PORTE SÉRIE
USB	PORTE USB

MÉCANIQUE	
ARM	MÉCANISME DU BRAS
BZL	COUVERCLE
CBT	BOÎTIER
CHA	CHÂSSIS
DDM	ÉTAGE D'ENTRAÎNEMENT DU DISQUE
EXC	CONNECTEUR EXTERNE
HCM	MÉCANISME DE SUPPORT DE TÊTE
HOL	SUPPORT DE CASSETTE
INC	CONNECTEUR INTERNE
LDG	MÉCANISME DE CHARGEMENT
LNM	MÉCANISME DE LENTILLE
PFM	MÉCANISME D'AVANCEMENT DU PAPIER
PIN	GALET/LEVIER PRESSEUR
PRI	BLOC D'IMPRIMANTE
RFM	MÉCANISME D'AVANCEMENT DU RUBAN
RHD	TÊTE(S) ROTATIVE(S)
SLD	MÉCANISME DE DÉPLACEMENT
SRS	ÉTAGE DE LA BOBINE DÉBITRICE
STA	BLOQUE STATIQUE
TDM	MÉCANISME D'ENTRAÎNEMENT DE LA BANDE
THR	MÉCANISME DE MISE EN PLACE
TNR	LEVIER DE RÉGLAGE DE LA TENSION DE BANDE
TPT	PARCOURS DE BANDE
TRS	ÉTAGE DE LA BOBINE RÉCEPTRICE
WIR	CÂBLE
XXX	PIÈCES ESTHÉTIQUES

EXEMPLE

CODE SYMPTÔME	RÉFÉRENCE PIÈCE	RÉFÉRENCE SCHÉMA	CODE SECTION	CODE PLAQUETTE	CODE DÉFAUT	CODE RÉPARATION	NOMBRE
1 4 1 2 3 6 4 1	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 3 4 5 6 7 8 9 X X X X X X X X	R 1 2 3 . . . . 1 1	T D M	Y A 2 2 . . .	C 1	Z 1	. . . .

CODES DE DÉFAUTS

MÉCANIQUE	
A	USÉ (OU DÉFAUT MÉCANIQUE GÉNÉRAL)
A1	MAUVAIS FONCTIONNEMENT
B	SALE/MACULÉ
C	DÉRÉGLAGE MÉCANIQUE
D	COUPURE/DÉFECTUEUX
E	DÉFORMATION
F	ENCLENCHEMENT/CALAGE
G	RAYÉ/ÉBRÉCHÉ/BORDS COUPANTS
H	CRAQUELÉ/DÉCOLLÉ/ROUILLÉ/FONDU
I	LÂCHÉ/DÉTACHÉ/DÉNUDÉ
J	INSTABLE
K	FUITE MÉCANIQUE
L	SEC (PAS DE LUBRIFIANT)
M	OBJET/CORPS ÉTRANGER

ÉLECTRIQUE	
N	COMPOSANT/MODULE ÉLECTRIQUE DÉFECTUEUX
O	BRÛLÉ/ARC/PIXELS MANQUANTS
P	DÉRÉGLAGE ÉLECTRIQUE/AJUSTAGE INCORRECT
Q	COURT-CIRCUIT
R	OUVERTURE
S	FUITE ÉLECTRIQUE
T	MAUVAIS CONTACT/SOUDURE
T1	MAUVAISE TERRE
U	CIRCUIT OUVERT
V	PLAQUETTE FISSURÉE
W	SOUDURE SÈCHE OU MANQUANTE
X	SOUDURE EN PONT
Y	PIÈCE/MODULE ERRONÉ
Z	PIÈCE/MODULE MANQUANT
1	PROBLÈME DE LOGICIEL
11	PERTE DES DONNÉES EN MÉMOIRE
12	MAUVAIS PROGRAMME D'INSTALLATION
13	LOGICIEL DÉFECTUEUX OU INCOMPLET
14	PROBLÈME DE MISE EN PLACE DU LOGICIEL
15	PAS D'IDENTIFICATION/AUTHENTIFICATION DU PRODUIT OU DE L'UTILISATEUR
2	ÉPUISÉ/ÉMISSION FAIBLE
3	RAS - DANS LES SPÉCIFICATIONS
4	RAS - UTILISATION PARTICULIÈRE
5	NO PROBLEM FOUND - LOCAL CONDITIONS
51	MAUVAISE TENSION SECTEUR
6	DIAGNOSTIC IMPOSSIBLE
7	CÂBLAGE OU ASSEMBLAGE INCORRECT
81	RACCORDEMENT INCORRECT DE L'ÉQUIPEMENT
9	MAUVAISE UTILISATION
93	MODIFICATION NON AUTORISÉE

CODES DE RÉPARATION

A	REMPLACEMENT
B	RÉGLAGE MÉCANIQUE
C	ELECTRICAL ALIGNMENT
D	RESSOUDURE PRÉVENTIVE
D1	RETOUCHE/REMISE EN BONNE POSITION (CONNECTEUR/TUBE …)
E	NETTOYAGE
F	LUBRIFICATION
G	RÉPARATION PIÈCES ÉLECTRIQUES
H	RÉPARATION PIÈCES MÉCANIQUES
I	MODIFICATION DEMANDÉE PAR LE FABRICANT
J	ENLEVÉ/RETIRÉ
K	AJOUTÉ
L	CONTRÔLE FONCTIONNEL
M	MESURE DES SPÉCIFICATIONS
N	ENTRETIEN
O	REMISE EN ÉTAT
P	REMPLACEMENT PRÉVENTIF DE PIÈCES
Q	ACTION PRÉVENTIVE SANS REMPLACEMENT DE PIÈCES
U	EXPLICATIONS COMPLÉMENTAIRES
V	DEVIS REFUSÉ
W	DEVIS AVEC PIÈCES
X	DEVIS SANS PIÈCES
Y	RETOUR AU CLIENT SANS RÉPARATION
Z	ÉCHANGE D'APPAREIL
Z1	ÉCHANGE PRODUIT (RÉPARATION TROP COÛTEUSE)
Z2	ÉCHANGE PRODUIT (TROP D'INTERVENTIONS)
Z3	ÉCHANGE PRODUIT (PIÈCE NON DISPONIBLE)
Z4	ÉCHANGE PRODUIT (RÉPARATION IMPOSSIBLE)
Z5	ÉCHANGE PRODUIT (DEMANDE REVENDEUR)
Z6	ÉCHANGE PRODUIT (DEMANDE FABRICANT)
1	CORRECTION DE LOGICIEL/RÉINITIALISATION
2	REMISE À NIVEAU DU LOGICIEL
3	REMISE À NIVEAU DU PRODUIT

REV03 – 2000/02
9-948-441-20

This technical documentation is for use by maintenance technicians only
Documentation technique exclusivement destinée aux professionnels de la maintenance
Diese Angaben und Hinweise sind ausschließlich für den Service des Fachhändlers bestimmt
Documentazione tecnica destinata esclusivamente ai tecnici dell'assistenza
Documentación técnica destinada exclusivamente a los profesionales de mantenimiento

Thomson multimedia
Scandinavia AB
Florettgatan 29 C
S-25467 Helsingborg (Sweden)
Tel. : 042 25 75 00

Thomson multimedia
Sales UK Limited
30 Tower View
Kings Hill, West Malling
Kent ME19 4NQ (England)
Tel. : 44 (0) 173 252 0920

Thomson multimedia
Sales Germany GmbH & Co oHG
Karl-Wiechert-Allee 74
30625 Hannover

Thomson
Consumer Electronics Poland
ul.Gen.L. Okulickiego 7/9
05-500 Piaseczno (Varsovie)
Tel. : (22) 757 10 80

Thomson multimedia
Sales France
46, quai Alphonse Le Gallo
92648 Boulogne cedex
Tel. : 01 41 86 60 00
Minitel : 3616 ou 3623 TCEDS
Internet : http://www.thomson.fr

Thomson multimedia
Czech s.r.o.
ul. Dopravaku - dum Genius 1
Dolni Chabry
CZ - 18400 Prague 8
Tel. : (2) 688 67 70

Thomson multimedia
Hungary KFT
Lajos u. 78. II.em.
H-1036 Budapest
Tel. : 00 36 14 5334/80

Thomson multimedia
Switzerland
Seewenweg 5
CH-4153 Reinach
Tel. : (61) 716 96 60

Thomson multimedia
Sales Portugal
Avenida da Boavista, 3521
4106 Porto
Tel. : (2) 26 18 76 41

Thomson multimedia
Sales Italy S.p.A.
Via Leonardo da Vinci,43
20090 Trezzano sul naviglio (Milano)
Tel. : (02) 48 414 111

Thomson multimedia
Sales Spain
Avenida Isla Graciosa, 1
Edificio Áncora
Parque Empresarial La Marina
28700 San Sebastián de los Reyes (Madrid)
Tel. : (91) 384 14 19

The description and characteristics given here are of informative significance only, and non committal. To keep up the high quality of our products, we reserve the right to make any changes or improvement without previous notice. • Les descriptions et caractéristiques figurant sur ce document sont données à titre d'information et non d'engagement. En effet, soucieux de la qualité de nos produits, nous nous réservons le droit d'effectuer, sans préavis, toute modification ou amélioration. • Die Beschreibungen und Daten in dieser Anleitung dienen nur zur Information und sind nicht bindend. Um die Qualität unserer Produkte ständig zu verbessern, behalten wir uns das Recht auf Änderungen vor. • Le descrizioni e le caratteristiche date su questo documento sono fornite a semplice titolo informativo e senza impegno. Ci riserviamo il diritto di eseguire, senza preavviso, qualsiasi modifica o miglioramento. • Las descripciones y características que figuran en este documento se dan a título de información y no de compromiso. En efecto, en bien de la calidad de nuestros productos, nos reservamos el derecho de efectuar, sin previo aviso, cualquier modificación o mejora.

Thomson multimedia Sales Europe - S.A. au capital de 30 000 000 - Siège : 46, quai Alphonse Le Gallo 92100 Boulogne France - RCS Nanterre B 322 019 464

ITC222 Focus Instructions

Attention: Disassembling the set and accessing the service manual may compromise the operation of the set. I personally feel these are relatively low-risk operations, but I will not guarantee your success. All operations I describe should be considered to be **"at your own risk"**. Instructions on accessing the service menu and performing advanced convergence can be found in the service manual alignment chapter for the ATC222 downloadable from http://home.austin.rr.com/doctorjoe

1) Pull off the screen over the speakers. It "pops" right out.
2) Remove the panel with the power, channel +/-, volume +/- buttons. There are two screws (T-20 Torx heads; a standard Allen wrench will work in a pinch) on the back of the set and seven screws across the bottom. See Figure 1. This exposes the lens assembly's.
3) Remove the hatch between the two speakers. There are four screws holding it on. See Figure 1. This exposes the electronic focus controls.

These 2 Screws in back
Remove This Panel (Do Not Disconnect Cables)
These 2 Screws in back
Remove This Panel
Speaker Screen "pops" Off

Figure 1: D56W20 with speaker screen removed. Remove the circled screws to release the two panels. Do not disconnect the cables to the power/channel/volume panel

4) Turn the set on and let it warm up for 15 minutes. Set contrast to maximum.

5) Boot into the service menu. *The service manual does not say what mode (480 or 1080) to be in. Presumably more resolution is better so I used 1080 mode.* (see service manual alignment chapter for details.)
6) Enter the convergence submenu and bring up the 13x15 red/green convergence grid (see service manual alignment chapter for details).
7) Figure 2 shows the recess with the lens assemblies which is exposed when you remove the power/channel/volume panel. Use a soft cloth to dust off the lenses. Cover the red CRT with a cloth/towel.

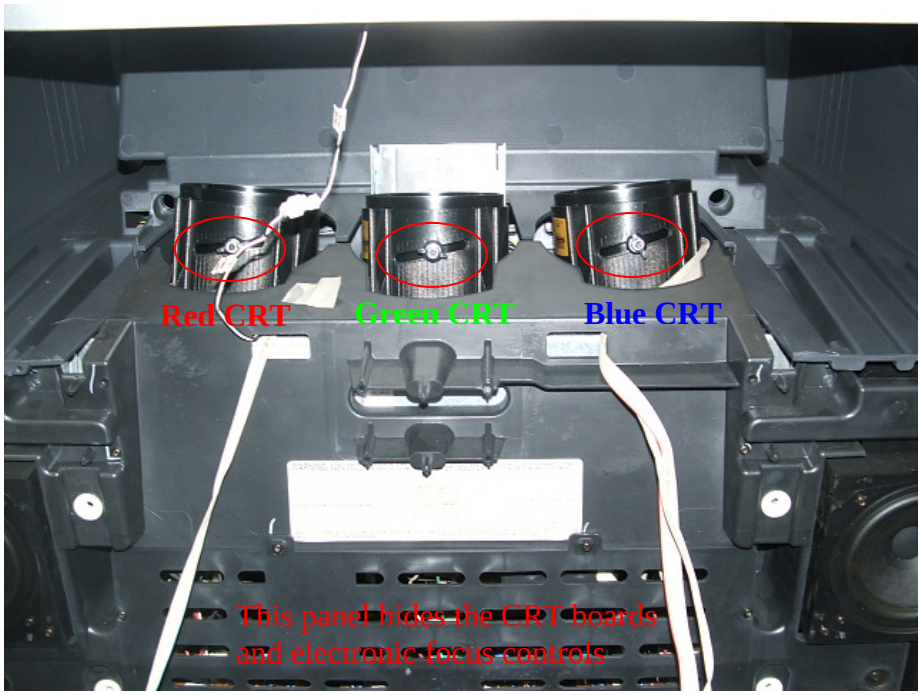


Figure 2: Recess exposed when power/channel/volume panel is removed. Wing nuts for manual focusing are circled in red.

8) Use a small flathead screwdriver to adjust the electronic focus for the sharpest line in the center of the screen. See Figure 3.
9) If the focus is not acceptable, then loosen the wing nut on the lens assembly as shown in figure 2, and rotate the assembly for a better focus. Then repeat step 8.
10) Move the towel over the green CRT and repeat steps 8-9 for the red CRT.
11) Use the remote to switch from the red/green convergence grid to the blue/green grid. Repeat steps 8-9 for the blue CRT.
12) Turn the power off and reassemble the TV set.
13) Run full 3x3, 5x5, and 13x15 convergence on the set for 480 and 1080 (see service manual alignment chapter for details).

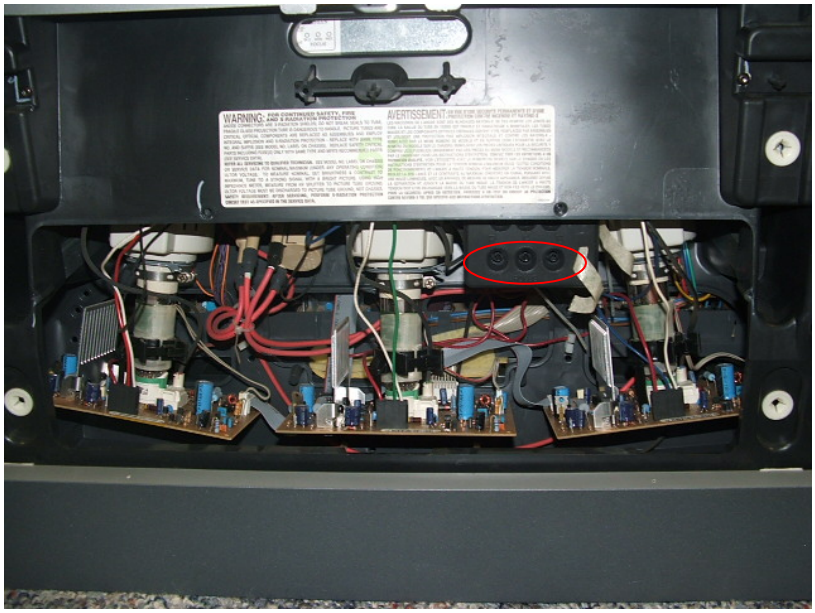


Figure 3: Recess exposed when the lower center panel is removed. Allows access to the CRT Kine socket boards and to the electronic SCREEN and FOCUS controls. Focus controls are circled. They are labeled by color. The SCREEN control is used to set CRT "cutoff" (adjust color temperature). Do not adjust it. Do not touch the tube stems or circuit boards (high voltage electric shock danger)!

ALIGNMENT PROCEDURES

Operating Conditions

Unless otherwise noted, the following conditions must be observed when aligning the ITC222 chassis:
Chassis must be operated from a 120VAC isolation transformer, with line voltage set to 120VAC (±2.0V).
Picture controls (black level, contrast, etc.) must be set to factory presets via the Picture Quality menu.
Procedures must be performed in the sequence given.
A 10X probe must be used for oscilloscope and frequency measurements.
The audio output leads must not be shorted together or to ground with the chassis on.
All video signals must have -40 IRE sync tips unless specified otherwise.
Chassis AC power must be removed for 10 seconds before disconnecting any cable.
A 3-minute warm-up is required for chassis or module related alignments. A 15-minute warm-up is required for Kine or Convergence related alignments.

Required Test Equipment

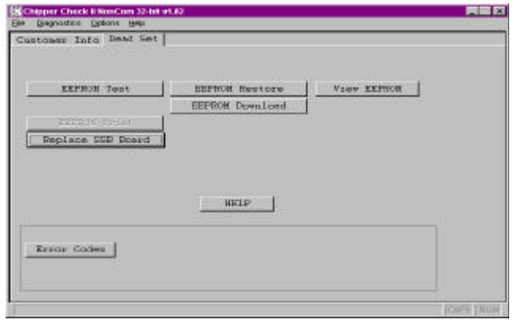
- Dual-Trace Oscilloscope
- Digital Voltmeter
- Frequency Counter
- Audio Signal Generator
- NTSC Signal Generator (B&K 1249, or equivalent)
- MTS Signal Generator (B&K 2009, or equivalent)
- Sweep/Marker Generator (or Standard Signal Generator)
- YPrPb Signal Generator (DVD player w/YPrPb)
- DC Power Supply (5.0V/0.25A) for TAG001
- Chipper Check® software
- Chipper Check® interface box and computer
- Personal Computer (IBM Compatible w/ CD ROM and Sound Card)

NOTE: For optimum performance it is critical that this instrument be properly aligned. For Auto Convergence to work correctly it is **HIGHLY RCOMMENDED** that the geometry alignments are first verified

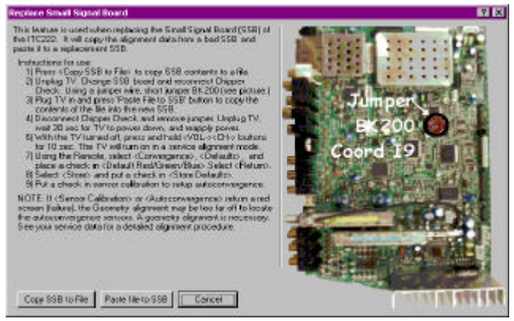
Small Signal Board (SSB) Replacement

All alignment data is stored in EEPROMs located on the Small Signal Board (SSB). If the SSB needs to be replaced, it is **HIGHLY RECOMMENDED** the EEPROM data be downloaded by using Chipper Check. Once the SSB has been replaced, upload the alignment data back into the instrument. Then verify that the instrument is properly aligned.

1. Open Chipper Check. Select "**Dead Set" "ITC222"**. Follow the On Screen Instructions to establish a connection. Fill in the Customer Information on the **"Customer Info"** tab and change to the EEPROM tab.
   The following menu should appear.



2. Press the "Replace SSB Board" The following screen appears



3. Follow the instructions on this screen to copy the alignment data from the defective SSB to the new SSB.

NOTE: It may be necessary to perform the geometry alignment to get the auto convergence to work correctly. Please refer to the section on Geometry Alignments

CRT Replacement (PTV Models)

If only 1 or 2 CRT's are replaced use a convergence pattern to align the new CRT. Align the new CRT to the pattern generated by the existing CRT. Then run Auto Convergence. If all 3 CRT's are replaced, it will be necessary to first center the Green CRT using a pattern with a center dot. Then align Red and Blue following the Geometry Alignment procedures in the service data.

Service Mode

Most of the alignments for this chassis are software-driven. Most of the alignments must be accessed and modified through the front panel service mode.

Entering the TV Service Mode Using the Front Panel Controls

1. Press and release the **POWER** button to turn the instrument off.

ALIGNMENT PROCEDURES (Continued)

2. Wait 10 seconds before trying to enter the Field Service Mode.
3. Press and hold the **VOLUME DOWN** and **CHANNEL DOWN** buttons for at least 8 seconds.
4. The instrument will switch on and come up with the field service main menu on the screen. LED will illuminate before the picture comes up.

The instrument should display the following menu:

Main Menu

The **CH** /\ and **CH** \/ buttons on the front panel are used to navigate up or down in the menu.

The **VOL** + and **VOL** - buttons on the FPA are used to select a menu item or decrease or increase a value in a selection list.

NOTE: Before the Field Service Mode is exited; you must check **STORE** or all changes to alignments will be lost.

The remote control can also be used to navigate the field service mode.

- **Clear button:** When this button is pressed the Field Service Mode disappears and the every-day TV functions are available.
- **Menu button:** To re-enter the Field Service Mode, make a **long press** on the Menu button. The service technician re-enters in the same menu point where he left the Field Service Mode.
- **Ù:** This button is used to navigate up in the menu.
- **Ú:** This button is used to navigate down in the menu.
- **<:** This button is used to select a menu item, to decrease a value or to select the previous value in a selection list.
- **>:** This button is used to select a menu item, to increase a value or to select the next value in a selection list.
- **OK:** This button is used to select or deselect a menu item.

Main Menu

Soft-Ver: Displays the current software version.

Runtime Counter: Displays the total runtime in hours and mintues.

DVD Soft-Ver: For DVD models only, displays the current software version.

Config: Displays the configuration code of the instrument. Each character represents a paraticular hardware feature or option.

Serial-No.: Displays the serial number of the instrument.

Common features found in the submenus

Return: The submenu is closed and the main Field Service Mode menu appears.
Defaults: The default values for the current menu are copied from ROM to RAM.

Note: If Default is checked a complete realignment of that particular menu is required.

Store: All current values from a menu group are stored into memory.
Restore: The last stored settings for the menu displayed are copied from NVM to RAM.

Tube Type Menu

1. Select the correct tube type from a pulled down list on the right hand side of the menu. (This will activate new tube type values along with default video and geometry parameters)
2. Check STORE to save new parameters in memory.

Tube Submenu

Chassis Setup

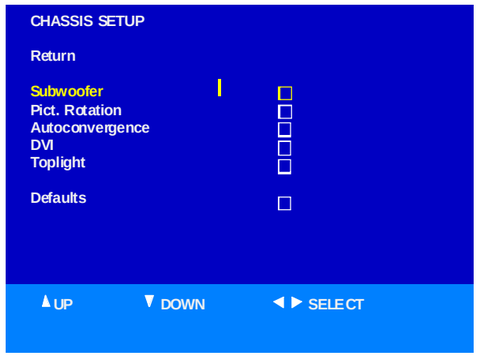
Subwoofer: Allows the instrument to be configured for a subwoofer

Pict. Rotation: Specifies whether the picture rotation option is available or not. (DV Models Only)

Autoconvergence: Specifies whether the autoconvergence option is available or not. (PTV Models Only)

DVI: Specifies whether the DVI option is available or not.

Toplight: Specifies whether the toplight option is available or not.



Chassis Setup Submenu

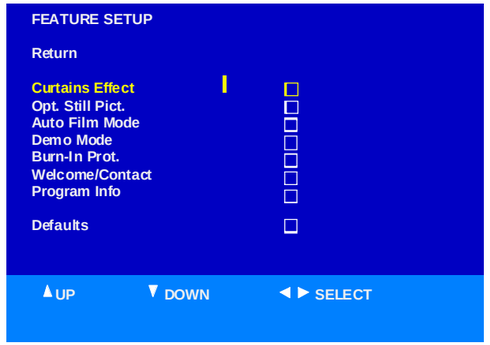
Feature Setup

Curtains Effect: Determines if the curtains feature is available to the user.

Opt. Still Pict. : Determines if the Optimised Still Picture feature is available to the user.

Auto Film Mode: Determines if the Automatic Film Mode Detection feature is available to the user.

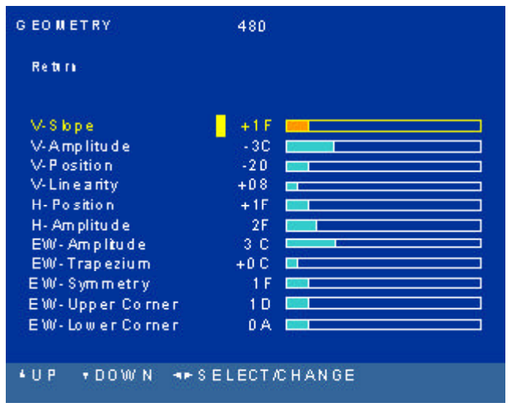
Burn-In Prot. : Determines if the Burn-In Protection feature is available to the user.



Feature Setup Submenu

Geometry Alignment

Entering the Geometry menu the display mode must be set to Standard Scanning Mode (480i/480p and 1080i). All 480i/480p alignments should be completed using the RF input. Use either component input or DVI-input for 1080i adjustments.

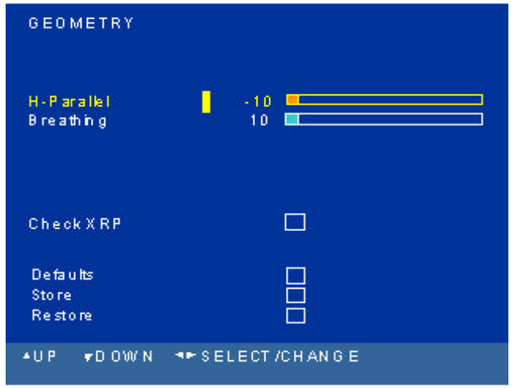


Geometry Submenu

Alignment Procedure (Direct View Models Only)

NOTE: Unless otherwise noted all Geometry adjustments must performed in both 480i/p and 1080i modes.

1. Place the instrument in the Field Service Mode.
2. Enter the Tube submenu. Verify the correct tube type is selected.
3. Enter the Geometry submenu.
4. Adjust H-Amplitude (Horizontal Amplitude) for slight underscan.
5. Enter the Video submenu. Selct the G2 alignment. Adjust the Screen control on the flyback until the just becomes visible.



Geometry Submenu

6. Adjust PL557 on the Dynamic Focus Board to center the raster between the tube border.
7. Realign G2 for 150V on the highest cathode.
8. Tune the instrument to receive a crosshatch pattern.
9. Return to the Geometry submenu.
10. Adjust V-Slope (Vertical Slope) until the middle line of the test pattern is just visible.
11. Using a Monoscope pattern, adjust V-Amplitude (Vertical Amplitude) until the first and last horizontal line of the test pattern is just hidden by the tube.

NOTE: Instruments with 16/9 CRT's must have this alignment performed with the format set to 16/9.

12. Adjust V-Position (Vertical Position) until the picture is centered vertically. It may be necessary to recheck the V-Amplitude (Step 11) adjustment.
13. Adjust V-Linearity (Vertical Linearity) for equal height of the squares in the crosshatch pattern.

NOTE: Instruments with 16/9 CRT's must have this alignment performed with the format set to 16/9.

14. Adjust H-Position (Horizontal Position) until the test pattern is horizontally centered.
15. Using a Monoscope pattern adjust H-Amplitude (Horizontal Amplitude) until the first and last horizontal line of the test pattern is just hidden by the tube. It may be necessary to recheck the H-Position (Step 14) adjustment.
16. Using a Crosshatch pattern adjust EW-Amplitude (East West Amplitude) until the vertical lines in the middle of the CRT are straight.
17. Adjust EW-Upper Corner (East West Corner) until the vertical lines are straight at the top of the screen.
18. Adjust EW-Lower Corner (East West Corner) until are straight at the bottom of the screen.
19. Adjust EW-Symmetry (East West Symmetry or H-Bow) until the left and right border of the screen are the same.

NOTE: It may be necessary to repeat Steps 14- 19 after this adjustment for optimum performance.

20. Adjust H-Parallel (Horizontal Parallelogram) the offset between the top and bottom of the picture.
21. Adjust EW-Trapezium (East West Trapezium) for best compromise between Left and right vertical lines.
22. Adjust Breathing (EHT Compensation) until horizontal amplitude will change with different beam current at the same ratio as vertical amplitude.
23. H-Max and H-M set the range limitations of the H-Amplitude adjustment. This adjustment should only be used in cases where CRT is replaced and it does not appear in the CRT list. To access this adjustment, the Development Support must be checked in the Miscellanous Setup menu.
24. Check the box to set the shutdown threshold for the XRP circuitry. During this automatic process the screen will blank, then reappear once it is finished.
25. Before exiting the Geometry menu, check Store to save changes to memory.
26. After the Geometry Alignments, check the Earth-Field Compensation (EFC) adjustment (DV Models Only). Enter the Advanced Picture Setting Menu. Using a crosshatch pattern, adjust the EFC for minimum picture rotation at the top and bottom.

Alignment Procedure (Projection Models Only)

NOTE: Unless otherwise noted all Geometry adjustments must performed in both 480i/p and 1080i modes.

1. Place the instrument in the Field Service Mode.

NOTE: It is recommended the Geometry alignments be performed using the Green CRT only.

2. Enter the Tube submenu. Verify the correct tube type is selected.
3. Tune the instrument to receive a crosshatch pattern.
4. Return to the Geometry submenu.
5. Adjust V-Slope (Vertical Slope) until the middle line of the test pattern is just visible.
6. Exit the Geometry submenu and turn the instrument OFF. Disconnect the Convergence Yoke connectors BW001 and BW002 (Located in lower right corner of the Convergence Amplifier PCB). Turn the instrument ON and tune to receive a center line pattern. Adjust horizontal and vertical center lines according to the chart below with the static convergence magnets. When completed turn the instrument OFF and reconnect the convergence yoke connectors.

Screen Size	Red Center Line Set Left of Center	Blue Center Line Set Right of Center
40"	2.4 cm (0.94 in)	2.4 cm (0.94 in)
52"	3.1 cm (1.22 in)	3.1 cm (1.22 in)
56"	3.3 cm (1.29 in)	3.3 cm (1.29 in)
61"	3.5 cm (1.37 in)	3.5 cm (1.37 in)

7. Turn the instrument ON and place in the Field Service Mode. Tune to recieve a crosshatch pattern. Enter the Geometry submenu. Using a Monoscope pattern, adjust V-Amplitude (Vertical Amplitude) until the first and last horizontal line of the test pattern is just hidden by the tube.
8. Adjust V-Position (Vertical Position) until the picture is centered vertically.
9. Adjust V-Linearity (Vertical Linearity) for equal height of the squares in the crosshatch pattern.
10. Adjust H-Position (Horizontal Position) until the test pattern is horizontally centered.
11. Using a Monoscope pattern adjust H-Amplitude (Horizontal Amplitude) until the first and last horizontal line of the test pattern is just hidden by the tube.
12. Using a Crosshatch pattern adjust EW-Amplitude (East West Amplitude) until the vertical lines in the middle of the CRT are straight.
13. Adjust EW-Trapezium (East West Trapezium) for best compromise between Left and right vertical lines.
14. Adjust EW-Symmetry (East West Symmetry or H-Bow) until the left and right border of the screen are the same.

NOTE: It may be necessary to repeat Steps 10- 14 after this adjustment for optimum performance.

15. Adjust Breathing (EHT Compensation) until horizontal amplitude will change with different beam current at the same ratio as vertical amplitude.
16. H-Max and H-M set the range limitations of the H-Amplitude adjustment. This adjustment should only be used in cases where CRT is replaced and it does not appear in the CRT list. To access this adjustment, the Development Support must be checked in the Miscellanous Setup

Yoke Centering Ring Adjustment

If Chipper Check is not available it is possible to replace a single CRT and realign geometry by using the centering rings on the CRT.

Using the convergence pattern available when in service menu the pattern from the replacement CRT may be adjusted to align with either of the two remaining CRT's using the centering rings shown in Figure 1.

First make certain the replacement CRT and yoke are assembled and placed back in the mounting as close as possible to the original CRT and yoke. At this point having the convergence pattern on screen will assist in the mechanical mounting.

Using the centering rings and observing the convergence pattern, rotate and move the pattern until the replacement color overlays as close as possible to the two colors not replaced. Moving the ring tabs together around the neck of the CRT draws the raster in small circles. Spreading the tabs apart moves the raster in more linear angles. The closer the tabs are together, the less affect on the CRT beam they have.

When the raster is as close as possible fix the magnets with paint or nail polish to prevent further movement.

After fixing the magnets, if gross geometry errors are apparent, geometry alignment is indicated. If the raster is close, use the "Auto-convergence" feature provided in the consumer menu to re-align convergence. This should correct most minor geometry problems. Follow auto-convergence with the consumer red and blue centering adjustments, then evaluate the raster again.

In most cases convergence will now be acceptable. If only slight convergence errors are noted the technician should enter the manual digital convergence menu and begin "touch-up" of the screen.

If gross geometry errors are still apparent re-evaluate whether the errors are noticable on the replacement CRT or whether they are global, affecting all three CRT's. If the errors affect all three CRT's a full geometry alignment is indicated. If the errors only affect one CRT, particulary the replacement, return to the mechanical placement and centering ring adjustments and begin those procedures again.

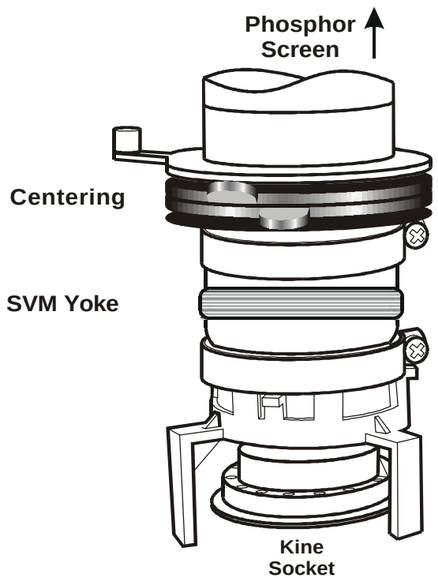


Figure 1 - Centering Rings

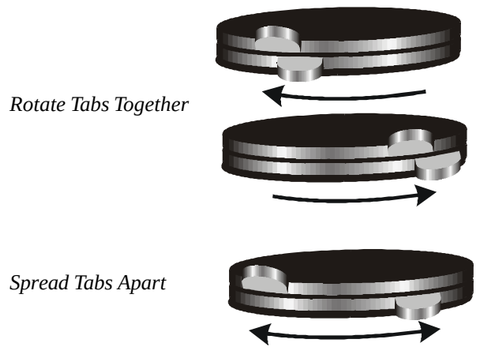


Figure 2 - Centering Ring Tab Movement

Focus Adjustments

Before attempting the Focus Adjustments, allow the instrument to warm up for a minimum of 15 minutes.

Dynamic Focus CRT (DV Models Only)

1. Tune the instrument to receive a crosshatch pattern.
2. Turn the F1 (Static) control on the focus block fully clockwise
3. Adjust the F1 control while observing the vertical lines along the left side of the screen for best possible focus.
4. Turn the F2 (Dynamic) control on the focus block fully clockwise.
5. Adjust the F2 control while observing the horzontal lines. Adjust for best possible focus.
6. Repeat step 3 and 5 for best possible overall focus.

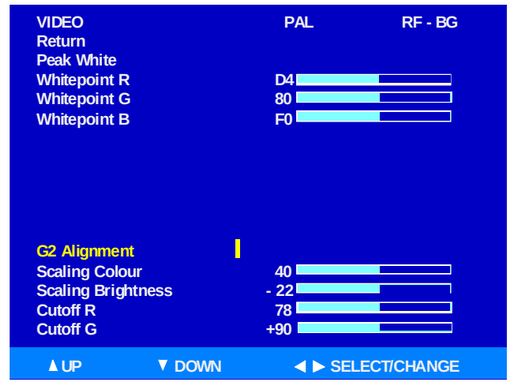
Single Focus CRT (DV Models Only)

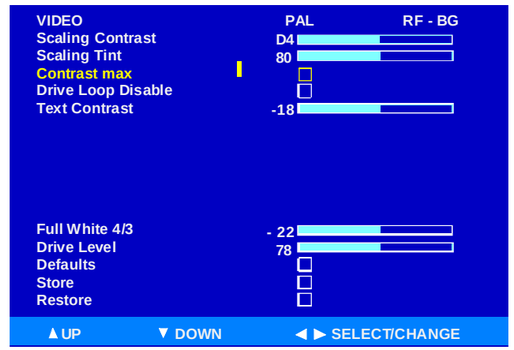
1. Tune the instrument to receive a crosshatch pattern.
2. Turn PL501 (Located on the Dynamic Focus PCB) to the full counter clockwise position.
3. Adjust F2 on the focus block for best possible focus of the horizontal lines.
4. Adjust PL501 for best possible focus of the vertical lines.
5. Repeat steps 3 and 4 for best possible overall focus.

Focus Adjustment (PTV Models)

1. Tune instrument to receive a crosshatch pattern.
2. Preset Contrast to maximun.
3. Adjust each CRT separately. Cover the two CRT's not being adjusted and adjust for best overall focus.
5. Adjust the Green Electrical Focus control, located behind the speaker grill for best overall focus.
6. Repeat procedure for the Red and Blue CRT's.

Video Alignments



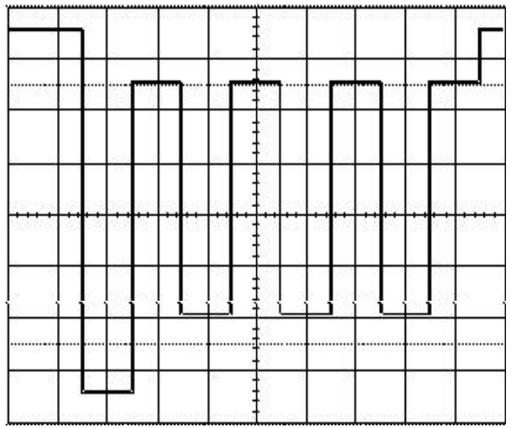


Video Alignment Submenu

Before attempting the Video Alignments, allow the instrument to warm up for a minimum of 15 minutes.

1. Tune the instrument to receive a crosshatch pattern.
5. Place the instrument in the Field Service Mode.
6. Enter the Video submenu.
7. Select G2 adjustment.
8. Adjust Screen control until retrace lines become visible, then adjust to make retrace lines invisible.
9. Press any key to exit the G2 alignment mode.
10. Select a pluge test pattern. Pattern should have a 0% background with a -2% and +2% bar.
11. Adjust Scaling Black Level to make the -2% bar invisible, keeping the +2% bar visible.

12. Select a 75% color bar test pattern.
13. Connect a scope to the Blue Cathode of the CRT board.
14. Adjust the Scaling Color to the levels shown



Note: This alignment must be performed in each of the following modes, Tuner, Comp 1H, Comp 2H, DVI and AUX_RGB (if DVD option is installed).

16. The Drive Level Alignment is preset according to the CRT type selected and does not need to be adjusted.
17. Before exiting the Video Alignment Submenu, check Store to save all alignments.

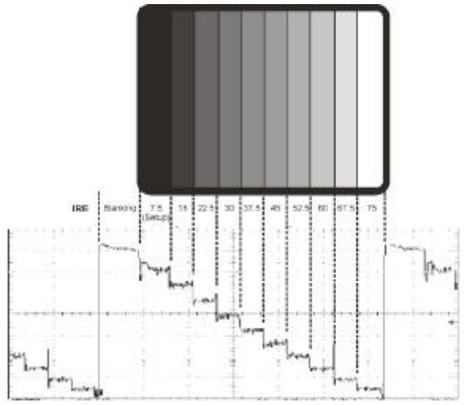
Color Temperature

Color Temperature for the ITC222 is similar to past chassis. Some form of staircase pattern similar to the figure below is required. Proper identification of the "0" (if available) and "7.5" or "setup" bars on screen and the waveform produced on the cathodes of the CRT will be needed. Consult the specifications manual for the pattern generator used to confirm the location of these bars.

The oscilloscope waveform shows the relationship between the bars and the video signal at the cathodes of the CRT. This waveform is present on all three cathodes. With the oscilloscope adjusted to provide a full peak to peak readout

of the waveform at the horizontal rate, the 7.5 IRE setup bar will the critical area. Be certain this bar can be identified using the equipment available. If a 7.5 IRE bar is not available, 10 IRE may be used.

It should be noted that bar patterns differ. Some vary from 10 to 100 IRE in various steps and in different directions, but most should have an identifiable 7.5 to 10 IRE bar.



The purpose of the color temperature setup is to assure uniform gray level from black to the brightest scenes. If a uniform gray screen is displayed, no matter the brightness level, no tinting in either red, green or blue direction should be apparent. This is known as "color tracking". Once the proper color temperature is set, AKB will maintain the cutoff of the CRT to assure proper low light performance.

Black Cutoff R/G, Whitepoint R/G/B Setup (Recommended Method)

1. Apply a gray test pattern giving a 12 IRE flat window. Connect Colorimeter near the center of the screen.
2. Adjust Black Offset R and Black Offset G to obtain the following color coordinates.

	Direct View	Projection TV
X	0.282	0.283
Y	0.298	0.296

3. Apply a gray test pattern giving a 50 IRE flat window.
4. Adjust Whitepoint R, G, and B for the following color coordinates.

	Direct View	Projection TV
X	0.282	0.278
Y	0.298	0.291

Note: This alignment must be done in the following modes, RF (NTSC), Comp 1H, Comp 2H, DVI and AUX_RGB (If unit has DVD option installed).

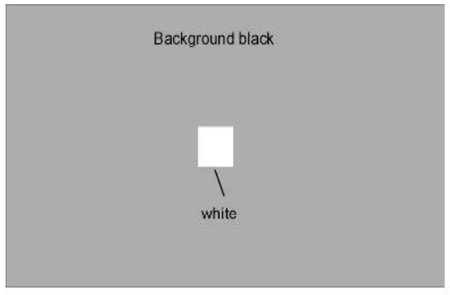
Black Cutoff R/G, Whitepoint R/G/B Setup (Alternative Method)

1. Apply a vertical gray bar staircase pattern (at least 8 bars from "7.5" to "≥75" IRE). Identify the 7.5 IRE bar location. It is the "black" or "cutoff" bar. For these adjustments this bar and the next brighter bar will be used. On most patterns the remainder of the bars will progressively become brighter.
2. Adjust Black Cutoff R or Black Cutoff G until any tinting disappears from the black bar. When properly adjusted the adjacent bar should be a very low level gray with no color tinting.
3. Now observe the brighter portions of the bars. Adjust Whitpoint R, G, or B to remove any signs of tint in the higher brightness bars. Observe the bars for signs of CRT overdrive. Some compromise may be required, but the higher IRE bars should be as free from color tinting as possible.

Note: There are separate color temperature alignments for RF (NTSC), Comp 1H, Comp 2H, DVI and AUX_RGB (If unit has DVD option installed).

Peak White Alignment

1. Apply a white centered pattern of 100 IRE 2% of the picture surface on a dark background.
2. Adjust for peak white at center of the screen.
3. Check Scaling Black Level, Whitepoint, Black Offset and Peak White adjustments. It may be necessary to adjust these alignments several times for optimum performance.



Note: This alignment must be done in the following modes, RF (NTSC), Comp 1H, Comp 2H, DVI and AUX_RGB (If unit has DVD option installed).

Full White 3/4 Alignment

1. Insert a full white pattern of 100 IRE through RF. (Instrument will automatically set to ¾ mode).
2. Adjust for full white across the screen.

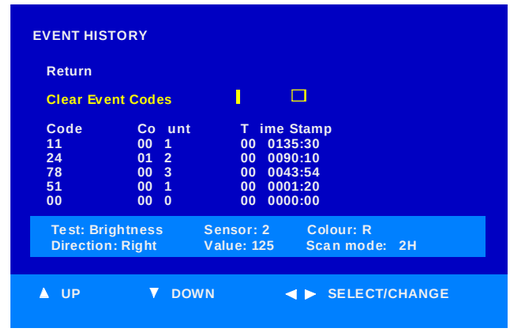
Text Contrast, Contrast Max, Scaling Contrast Alignments

1. Insert a white centered pattern of 100 IRE, 2% of the picture surface with a black background.
2. Adjust for peak white.
3. Contrast Max and Scaling Contrast are preset according to the CRT type selected and do not need to be adjusted.

Event

If a run-time event occurs, its error code will be stored in the NVM. The stored event codes can be read in one of two methods. The first is with the event menu. The last five event codes will be displayed, along with a time stamp from the run time counter. The time stamp will display the last occurrence of a particular event. The time stamp is displayed as "Run Hours". An event counter counts how many times that event has occurred. The counter will not count beyond 255. The most recent event code is displayed on top. To clear the event codes from memory, select the Clear Event Codes box. A long press will clear all stored codes.

Only the last error code stored in the NVM can be read with this method. The LED will blink two separate digits. Example, if the error code of 23 is the last error code stored



Event Submenu

in the NVM, the LED will have 2 short flashes, followed by a short pause. Then will flash 3 times, followed by a long pause. This will be repeated 4 times.

First allow the instrument to sit unplugged for 60 seconds. At plug in the LED will first blink twice to indicate microprocessor has reset. When an attempt is made to power up, the instrument will attempt 3 times to start. The LED will display a series of flashes followed by the error codes. The LED will flash the error code 4 times.

Sound Setup

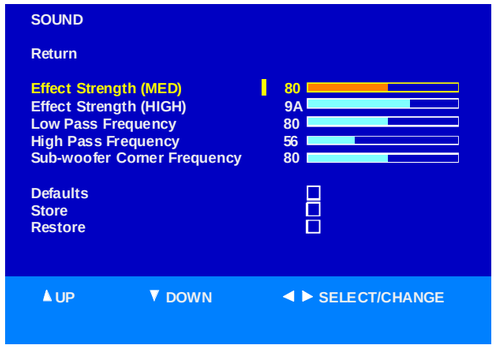
Effect Strength (MED): Modifies the bass effect strength for the user setting MEDIUM.

Effect Stength (HIGH) : Modifies the bass effect strength for the user setting HIGH.

Low Pass Frequency: Modifies the low pass cut-off frequency.

High Pass Frequency : Modifies the high pass cut-off frequency.

Sub-woofer Corner Frequency : Modifies the sub-woofer corner cut-off frequency.



Sound Setup Submenu

Miscellaneous

Clear Programs: Select with a 2 second press to clear all programs stored in memory and set Picture Preference, User Picture and Audio settings to factory values. Returns the instrument to "Out of Factory Mode".

Default Presets : Sets the default value for all factory sound and picture presets.

Bus Quiet: In this mode the NVM can be read, modified or reprogrammed. Enter this function with with a 2 second press. This mode is cancelled with a press of Clear, Left, Right, Up, Down or On-Off keys.

Development Support : Enables or Disables access to development support functions in the field service menus.

Restore Factory Settings : Restores the correct "Out of Box" condition.

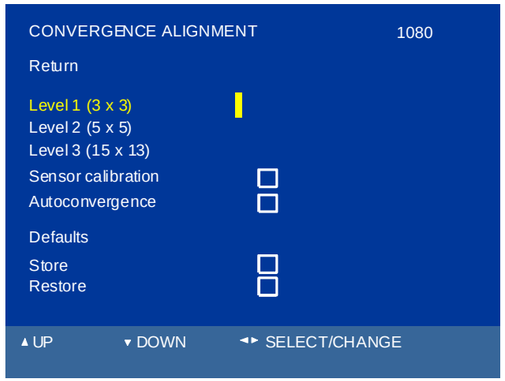
Switch 2nd Tuner to Main : Causes the current signal on the 2nd tuenr to be switched to the main screen and the monitor output jacks. Any channel change will override this feature and return tuning to normal.

Miscellaneous Setup Menu

Convergence (PTV Models Only)

The ITC222 employs a ditigal convergence circuit that makes it possible to electronically align up to 208 separate points on the screen. 3 levels of convergence adjustment is provided.

Level 1: Provides 9 adjustment points
Level 2: Provides 25 adjustment points
Level 3: Provides 195 adjustment points



Convergence Submenu

It is recommended to adjust Levels 1 and 2 only if repairs have been made to the Convergence Signal circuitry or after CRT replacement. Before performing the Convergence Alignment procedure it is **HIGHLY RECOMMENDED** the Geometry Alignment of the instrument is checked.

Note: Alignments must be performed in order. If Level 3 is adjusted, prior to Levels 1 or 2, all Level 3 alignments will be lost.

In Level 1 and 2, Press OK to select the color to be aligned. The position of the adjustment point can adjusted using the navigation keys (up, down, left and right) on the remote. Press the 2 key of the remote to move to the next adjustment point. Press the EXIT/CLEAR key to exit when completed.

Level 3 alignment works simular to Levels 1 and 2. The only difference, to move to the next adjustment point press 2 (up), 8 (down), 6 (right) and 4 (left) on the remote unit. when completed with convergence, press STORE to save all changes.

Sensor Calibration is used to calculate a reference border for the autoconvergence photo sensors. Check the box to begin the process. Autoconvergence starts the autoconvergence process.

Defaults enters a default submenu. Checking the box loads a set of default values from the convergence backup NVM to the Convergence IC RAM. The box will remain checked until the value is changed or store or restore is pressed in the convergence submenu.

Note: Before the Convergence Alignement menu is exited, you must check Store or all settings will be lost.

Manual Convergence Procedure

1. Turn instrument **"On".** Allow to warm up for 20 munitues. Turn instrument **"Off".** Enter the Service Menu holding the **"Channel Down"** and **"Volume Down"** on the FPA for 8 seconds. Enter the **"Convergence Menu".**
2. Perform **"Level 3"** (and/or Level 1, Level 2) manual convergence as describe above. When completed, press **"Clear"**, then select **"Return"** to go back to the main Convergence Alignment Menu.
3. Check **"Store"** in the main Convergence Menu. A check mark will appear in the box.
4. Select **"Defaults"** to enter the Default Menu.
5. Select **"Store Defaults".** Press and hold **OK** on the Remote for 2.5 seconds. Then select **"Return"** to go back to the main Convergence Alignment Menu.
6. Perform **"Sensor Calibration".** Select it and press **"OK".**

Note: If the **Sensor Calibration** is successful, the software will answer by flashing a **GREEN SCREEN**. If the **GREEN SCREEN** does not appear, turn the instrument off and begain the convergence procedure again.

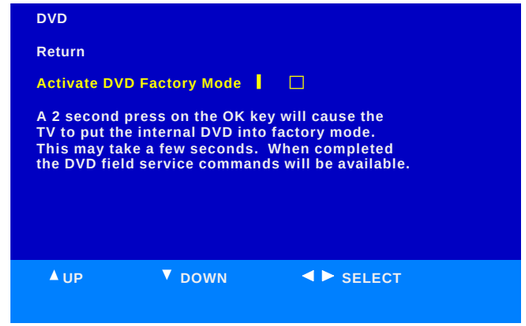
7. Select **"Return"** to exit the Convergence Alignment Menu.

Note: This procedure must be performed in both the 480P and 540P (1080I) modes. The initial service menu screen will indicate which mode the instrument is in.

DVD (DVD Models Only)

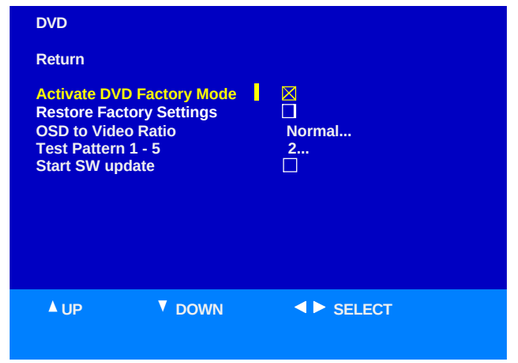
1. Place the instrument in the Field Service Mode.
2. Enter the DVD submenu.
3. Activate DVD Factory Mode by selecting the box. Press and hold the OK button for at least 2 seconds. The screen will then show the menu shown below. This process may take several seconds.

1. Place the instrument in the Field Service Mode.
2. Enter the DVD submenu.


DVD
Return
Activate DVD Factory Mode
A 2 second press on the OK key will cause the TV to put the internal DVD into factory mode. This may take a few seconds. When completed the DVD field service commands will be available.
▲UP
▼ DOWN
◄ ► SELECT

DVD Submenu

3. Activate DVD Factory Mode by selecting the box. Press and hold the OK button on the remote for at least 2 seconds. The menu will then change to the menu shown below. This process may take several seconds.



DVD Submenu (with Factory Mode Activated)

Restore Factory Settings: This will re-initialise the DVD's NVM content using the system NVM.

OSD to Video Ratio: Aligns the ratio between the

DVD Video Signal and the DVD OSD Video Signal. This is internally adjusted by the DVD and cannot be modified.

Test Pattern 1 - 5: Provides 5 test patterns for alignment.

1. Scaling Color 75/White, 75% Color Bars
2. Cutoff Alignment, 140mVp/p
3. Drive Alignment, 455mVp/p
4. Peak White Alignment, 700mVp/p
5. Color Temperature and Peak White

   140/170/700/359/455mVp/p

Start Software Update: Allows the DVD software to be update. The update is sent as a CDROM

1. Selecting this function will automantically open the DVD and switch the instrument to the DVD mode.
2. Place the CDROM in the instrument. Follow the instructions provided on the screen. Durning the update process the display will read **"Updating DVD Soft ware".**
3. After the software update is complete, the DVD player will reboot. This may take several seconds to complete. Once it is complete, the instrument will exit the DVD Factory Mode. The display will return to the DVD submenu.

Event Code	Event	Circuit	Condition
11	I2C_1 Low SDA Line		Data Line of I2C Bus_1 Held Low
12	I2C_1 Low SCL Line		Clock Line of I2C Bus_1 Held Low
13/95	I2C_2 Low SDA Line		Data Line of I2C Bus_2 Held Low
14/95	I2C_2 Low SCL Line		Clock Line of I2C Bus_2 Held Low
15	I2C_3 Low SDA Line		Data Line of I2C Bus_3 Held Low
16	I2C_3 Low SCL Line		Clock Line of I2C Bus_4 Held Low
17	I2C_4 Low SDA Line		Data Line of I2C Bus_4 Held Low
18	I2C_4 Low SCL Line		Clock Line of I2C Bus_4 Held Low
19	Chassis Detection	HW	No Valid Chassis Detected
21/22/23/24			Free Event Code
25	No ACKN Main Tuner	Tuner	Main Tuner Does Not Answer
26	No ACKN PIP Tuner	Tuner	PIP Tuner Does Not Answer
27	No ACKN IX300	Video	Video Switch Does Not Answer
28	No ACKN IV300	PSI	PSI IC Does Not Answer
29	PDD Bit Is Set	PSI	IV300 Power Down Detection
31	No ACKN IV400	Deflection	IC Does Not Answer
32	POR Bit Is Set	Deflection	IV400 Power Down Detection
33	Safety_INT Is Active	Deflection	Safety Circuit Is Active
34	NHF Bit Is Set	Deflection	Horizontal Flyback Problem
35	NRF Bit Is Set	Deflection	Oscillator Is Not Locked
36	BCF Bit Is Set	Deflection	Tube Is Still Not Warm After Warmup Time
37	NDF Bit Is Set	Deflection	Vertical Problem
38	XRP Bit Is Set Durning Normal Operation	Deflection	X-Ray Protection
39	SL Bit Is Set	Deflection	Phase 1 Not Locked
41	No ACKN IA001	Audio	IA001 Does Not Answer
42	RESET Bit is Set	Audio	The RESET Bit of IA001 Is Active
43			Not Used
44	No ACKN IA900	Audio	IC Does Not Answer
45	Wrong MSP	Audio	Wrong MSP Is Fitted
46/47			Reserved/Not Used
48	No ACKN Main IF	IF	IF IC (Main Tuner) Does Not Answer
49	No ACKN PIP IF	IF	IF IC (PIP Tuner) Does Not Answer

Event Code	Event	Circuit	Condition
51	No ACKN IV100	Upconverter	IC Does Not Answer
52	POR Bit Is Set	Upconverter	Power Down Detection (IV100)
53			Not Used
54	No ACKN IR005		NVM IC Does Not Answer
55	No ACKN IR006		Port Expander IC Does Not Answer
56	FLS Bit Is Set		Flash Info Of The HOP Occurred
57	TECI Message Failed		Software Can Not Perform A System Command
58	Event Code Validation		Code Validation Failed
59	Wrong GenCAM Version Used		GenCAM cut 2.1 Must Be Used
61	5V Good	HW	Switched 5V Not Available
62	5V and 8V Good	HW	Switched 5V & 8V Not Available
63	Power_Fail	HW	Unexpected Level On Power_Fail Line Found (Mains To Low)
64	XRP Alignment	HW	XRP Adjustment Detected Overvoltage
65	XRP NVM Verify	HW	Write To XRP NVM Area Failed
66	XRP NVM Not Recoverable	HW	XRP NVM Contents Are Corrutped And Can Not Be Recovered
67			Reserved
68	5V Failed During Operation	HW	Switched 5V Not Available During Operation
69	H & V Sync Not Valid	HW	H & V Sync (For OSD) Not Present
71	No ACKN IC040	Video	Frame Comb Filter IC Does Not acknowledge
72	No ACKN IX400	Video	2H Video Switch Does Not Acknowledge
73/74/75/76/77			Reserved
78	No ACKN DVD Unit	DVD	DVD Does Not Answer
79	DVD Ready Bit	DVD	DVD Ready Bit Is Set
81	No ACKN Convergence IC IK201	PTV Models	Convergence IC Does Not Answer
82	No ACKN M24C32 (RP-NVM)	PTV Models	NVM IC Does Not Answer
83	Wrong Convergence Test Pattern	PTV Models	Convergence Test Pattern Is Wrong
84	Before Is Was An RP	PTV Models	Tube Type Is RP, But Convergence Was Not Detected
85	Convergence NVM 1 Problem	PTV Models	Convergence 1 NVM Data Is Wrong
86	Convergence NVM 2 Problem	PTV Models	Convergence 2 NVM Data Is Wrong
87	IK201 Loop Blocked	PTV Models	IK201 Electrical Loop Blocked
88	POR Bit Is Set	PTV Models	The POR Set Of IK201 Is Set
89	Convergence Power Supply Off	PTV Models	Convergence Power Suopply Is Not Valid
91	Watchdog Disabled	SW	Watchdog Function Is Disabled

Event Code	Event	Circuit	Condition
92	General I2C Problem	SW	General Problem Of One Of The I2C Cells
93	Install Problem Of I2C Bus 1 & 2	SW	Problem To Install I2C Bus Driver
94	Install Problem Of I2C Bus 3 & 4	SW	Problem To Install I2C Bus Driver
95	Install Problem Of Port Driver Or Bus Driver	SW	Problem To Install The Port Driver Or I2C Bus Driver
96	Install Problem Of ADC Driver	SW	Problem To Install ADC Driver
97	Install Problem Of AV-Link Driver	SW	Problem To Install AV-Link Driver
98	Install Problem Of SDRAM Timing	SW	Problem To Install The SDRAM Timing
99	Watchdog	SW	Watchdog Was Active

ITC222 Advanced Convergence

Attention: Accessing the service manual and changing the settings saved in the EEPROM may compromise the operation of the set. I personally feel that performing advanced convergence is low-risk operation, but I will not guarantee your success. Before changing any video or geometry settings, write down the original settings. All original settings are lost when the new settings are stored. All operations I describe should be considered to be **"at your own risk"**. Instructions on accessing the service menu and performing advanced convergence can be found in the service manual alignment chapter for the ATC222 downloadable from http://home.austin.rr.com/doctorjoe.

1) Download and read the alignment chapter of the service manual from my home page (link above).
2) There are two "native" scan rates for convergence, 480 and 1080. Advanced convergence must be performed independently for both scan rates,
3) The service manual does not state clearly that there is any difference between video source or video input for the advanced convergence procedure for either scan rate. I used a DVD via component video for 480 mode and 1080i via DVI for 1080 mode.
4) Tune the video signal for the scan rate you are converging. Let the set warm up for 20 minutes.
5) Turn off the set and boot into the service menu. Wait 10 seconds, then hold down the Channel Down and Volume Down buttons on the front of the TV. Hold for 8 seconds. The set will boot into the service menu (figure 1)

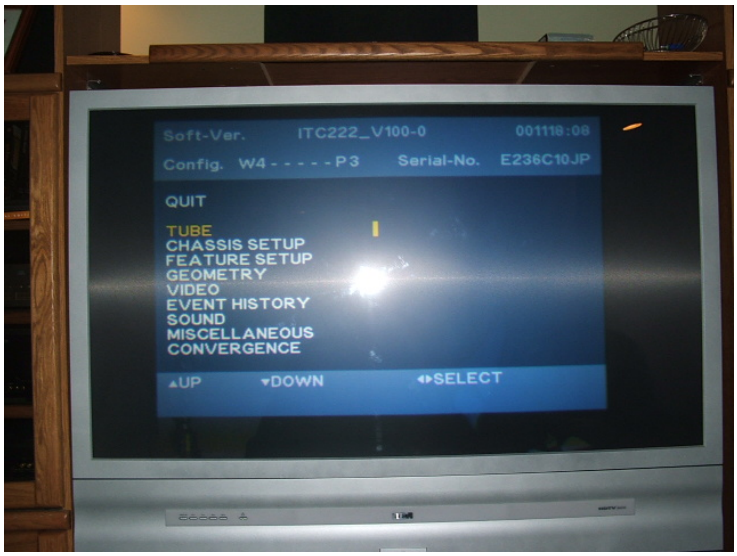


Figure 1: Service menu initial directory.

6) Use the remote control (make sure the remote is in "TV" mode; but don't change the input you tuned!) arrow keys to select "convergence" and press the OK button.

Joseph Shovlin
dr_joe_@hotmail.com 1/16/06

7) You should now see the main convergence menu (Figure 2). Note that the scan rate the set is in is indicated in the upper right hand corner of the menu (in figure 2, it says “1080”).

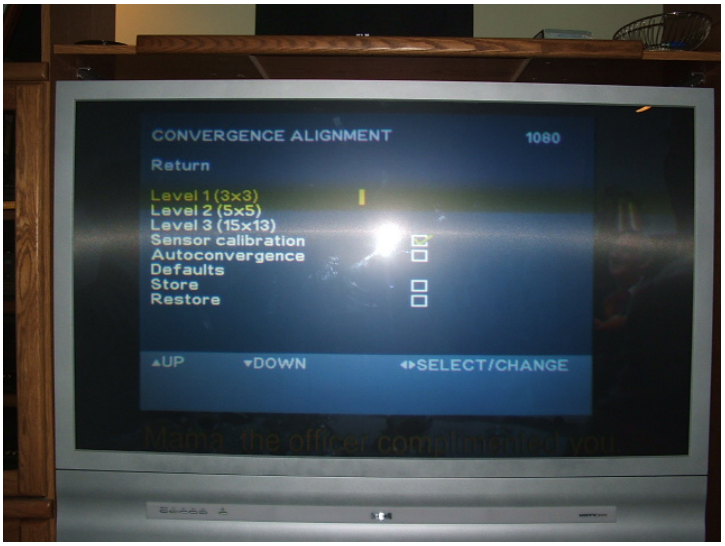


Figure 2: Main convergence menu.

8) Use the arrows on the remote and select “Level 1 (3x3)”. Press the OK button.
9) An instruction screen loads (Figure 3). Read the instructions: Press ‘OK’ to move from alignment screen to screen. Press 2 to move from point to point. Use the arrow keys to adjust. Press ‘clear’ to exit the convergence grids back to this menu.

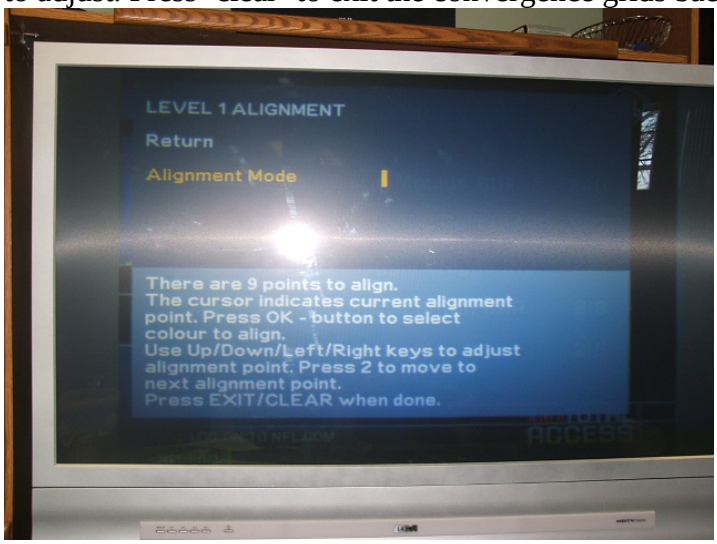

LEVEL 1 ALIGNMENT
Return
Alignment Mode
There are 9 points to align.
The cursor indicates current alignment point. Press OK - button to select colour to align.
Use Up/Down/Left/Right keys to adjust alignment point. Press 2 to move to next alignment point.
Press EXIT/CLEAR when done.

Figure 3: Level 1 Alignment instructions menu

10) Press ‘OK’. This brings up the red/green grid. Adjust each of the points so that the red line is hidden behind the green: red + green = yellow. The adjustment point is a plus sign – adjust both horizontal and vertical lines in the ‘+’ so you see no red (Figure 4). Use the ‘2’ button to move from point to point – it may take several passes over each point to remove all the red.

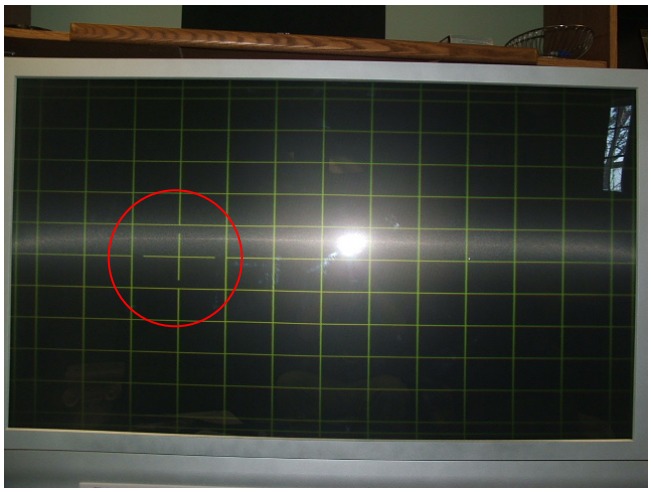


Figure 4: 5x5 Convergence Grid Screen. Adjustment point is circled. Use the remote arrow keys to make any red disappear from the horizontal line of the plus sign (up and down arrows) and the vertical line of the plus sign (left and right arrows). Then move on to the next adjustment point.

11) Press 'OK'. This brings up the blue/green grid. Adjust each point so that the blue line is hidden behind the green: blue + green = cyan. The adjustment point is a plus sign – adjust both horizontal and vertical so you see no blue. Use the '2' button to move from point to point – it may take several passes over each point to remove all the blue.

Note: http://www.rgbworld.com/color.html#add has a description of the additive nature of RPTV color

12) Press the "clear" button on the remote. This brings you back to the instructions screen.
13) Use the arrows on the remote to highlight "return" and press 'OK' on the remote – this brings you back to the main convergence menu.
14) Use the arrows to highlight "Level 2 (5x5)". Press 'OK' to bring up the instructions screen and follow steps 9-13 again.
15) Use the arrows to highlight "Level 3 (15x13)". Press 'OK' to bring up the instructions menu. Read the instructions: Press 'OK' to move from alignment screen to screen. Press 2, 4, 6, and 8 to navigate from point to point on the grid. Use the arrow keys to adjust. Press 'clear' to exit the convergence grids back to this menu.
16) Press 'OK'. This brings up the red/green convergence grid. Move from point to point and adjust the red grid behind the grid. Pay close attention to the edges of the screen. The outermost adjustment points are actually beyond the edge of the screen. It may take many passes through the grid to get it right. I find it easiest to concentrate on one area of the screen at a time.
17) Press 'OK'. This brings up the blue/green convergence grid. Repeat step 16 for blue.
18) Pressing 'OK' again brings up a green convergence grid. This grid is preset to be "square". It is not recommended to adjust this grid unless you purchase a mylar

convergence template from Thomson available at http://www.thomsonnetwork.com (you can also purchase a full copy of the service manual here).

19) Pressing 'OK' again brings up a white convergence grid. For this grid, the red and blue grids are fixed and you adjust the green grid. ***The service manual and other Thomson training documents that I know of do not explain under what circumstances this screen should be adjusted.***

20) Press 'clear' to go back to the instructions screen. Use the remote to select 'return' to get back to the main convergence menu.

21) Select "store" in the main menu and press 'OK'.

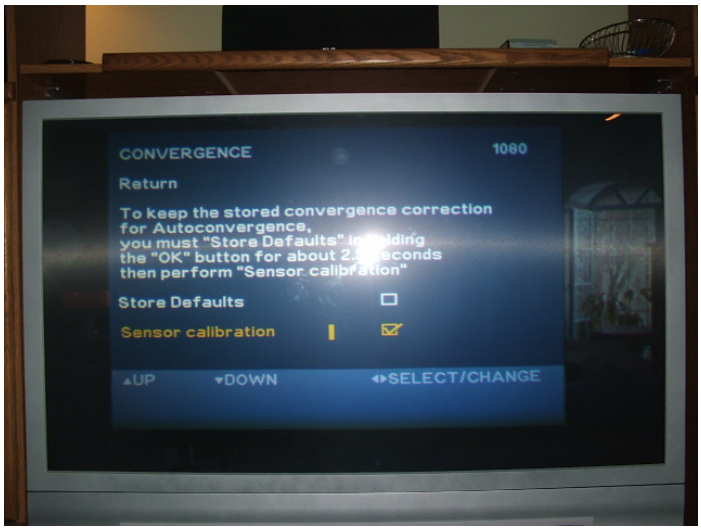


Figure 5: Convergence save menu

22) In the Convergence Save Menu (Figure 5), highlight "store defaults" and hold down the 'OK' button on the remote for 2.5 seconds. A checkmark will appear in the box.

23) Highlight "sensor calibration". The TV will calibrate the sensors and save the convergence. At the end of the process, the screen will blink green.

24) Select "return" until you get to the main service menu screen; press "clear" or select "quit" to leave the service menu.

25) Repeat for the second scan rate.

I found that the initial advanced convergence takes the longest. It will take many hours if you skip the 3x3 and 5x5 adjustments and jump straight to the 15x13 adjustment. You may have the best luck by working on the same scan rate a few days in a row. Once the convergence is good, touch-ups can be done going directly to the 15x13 grid and take only a few minutes. Complete 3x3, 5x5, and 15x13 convergence will only be necessary if there are major changes to the set (i.e. CRT replacement, set is moved to a new location, the CRT's are focused).